Mr Schulwitz.

Access DB# 120094

SEARCH REQUEST FORM

RECEIVED

Scientific and Technical Information Center

APR 22 2004

Requester's Full Name: Sabiha Qazi (STIC) Examiner #: 74141 Date: 4/26/04

Art Unit: 1616 Phone Number 30 20622 Serial Number: 09/385,834

Mail Box and Bldg/Room Location: Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need. MEJ

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: A nutritional supplement for lowering the cholesterol level + triglyceride

Inventors (please provide full names): Wright, J.L.C

Earliest Priority Filing Date: 8/20/1999

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for a composition ~~for~~

1) Containing sterol ester of an Omega-3-fatty acids. Omeg-3-fatty acids are EPA, DHA + SA.

2) for use to lower cholesterol level and triglyceride levels

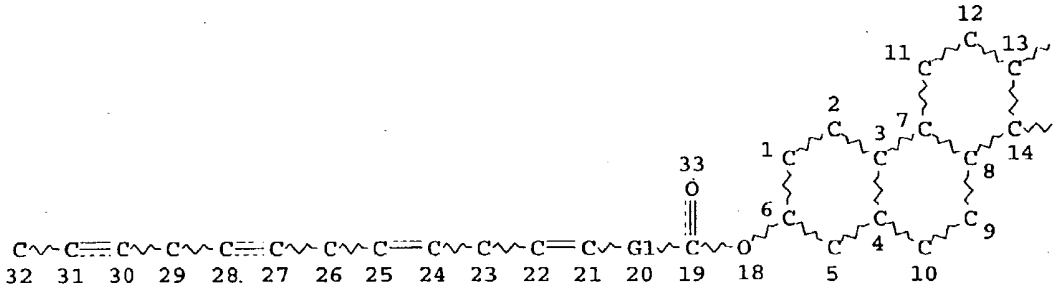
Please see attached sheets

Thank you

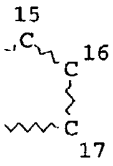
STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher:	NA Sequence (#)	STN 906.81
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#) 4	Questel/Orbit
Date Searcher Picked Up:	Bibliographic	Dr.Link
Date Completed: 4/27	Litigation	Lexis/Nexis
Searcher Prep & Review Time: 20	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet
Online Time: 50	Other	Other (specify)

PTO-1590 (8-01)

=> d que
L2 STR



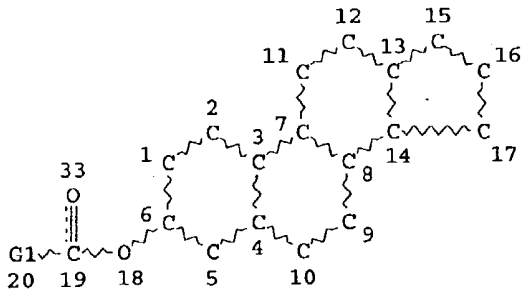
Page 1-A

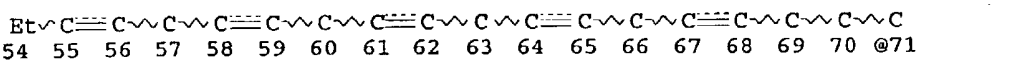


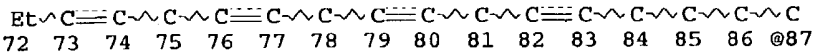
Page 1-B
REP G1=(0-5) CH2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

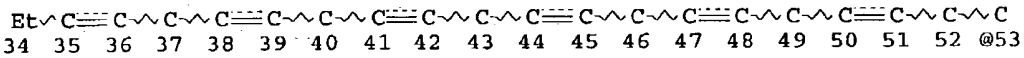
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 33

STEREO ATTRIBUTES: NONE
L4 49 SEA FILE=REGISTRY SSS FUL L2
L7 STR









VAR G1=53/71/87
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 75

STEREO ATTRIBUTES: NONE
L8 13 SEA FILE=REGISTRY SUB=L4 SSS FUL L7
L9 37 SEA FILE=HCAPLUS ABB=ON PLU=ON L8

=> d l9 ibib ab hitstr 1-37

L9 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:584977 HCAPLUS
DOCUMENT NUMBER: 140:249479
TITLE: Analysis of unsaturated compounds by Ag+ coordination ionspray mass spectrometry studies of the formation of the Ag+/lipid complex
AUTHOR(S): Seal, Jennifer R.; Havrilla, Christine M.; Porter, Ned A.; Hachey, David L.
CORPORATE SOURCE: Center in Molecular Toxicology, Department of Chemistry, Vanderbilt University, Tennessee, USA
SOURCE: Journal of the American Society for Mass Spectrometry (2003), 14(8), 872-880
CODEN: JAMSEF; ISSN: 1044-0305
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Coordination ionspray mass spectrometry (CIS-MS) is a useful tool in the

detection and identification of cholesterol ester and phospholipid hydroperoxides and diacyl peroxides. Extensive studies of a series of cholesterol esters using CIS-MS revealed the following: (1) Cholesterol esters with equal no. of double bonds as the internal std. showed a linear relative response in the mass spectrometer while compds. with non-equal nos. of double bonds gave a nonlinear relative response. (2) Complex adducts contg. cholesterol ester, silver ion, AgF, AgBF4, and 2-propanoxide form when silver is in molar excess of cholesterol esters, reducing the [M + Ag]+ signal. (3) In a mixt. of cholesterol esters where silver is limiting, Ch22:6 and Ch20:4 bind to silver at the expense of Ch18:2 and have a higher signal in the mass spectrometer. (4) In a mixt. of cholesterol esters where silver concn. is twofold greater than total cholesterol ester concn., Ch22:6 and Ch20:4 form large complex adducts more frequently than Ch18:2 and have a lower signal in the mass spectrometer.

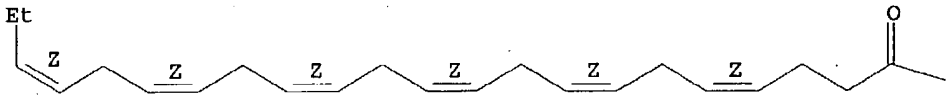
IT **70110-50-8**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(anal. of cholesterol esters by silver coordination ionspray mass spectrometry)

RN 70110-50-8 HCAPLUS

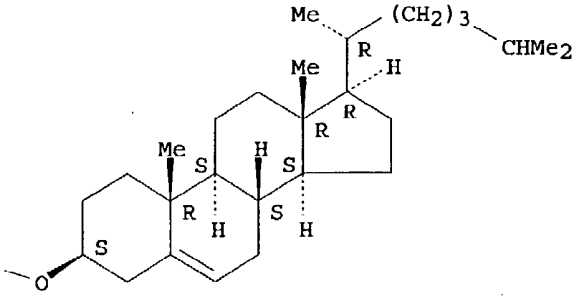
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

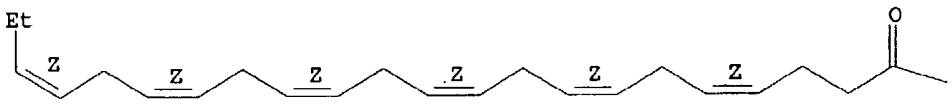


REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

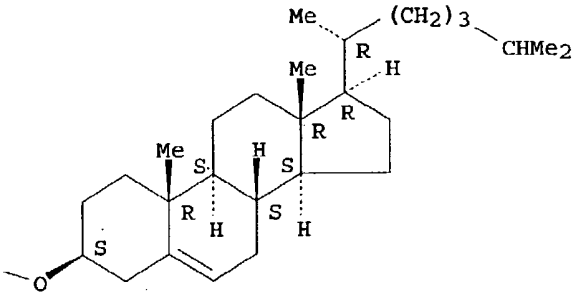
L9 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:315243 HCAPLUS
DOCUMENT NUMBER: 139:68456
TITLE: Low serum cholesteryl ester-docosahexaenoic acid levels in Alzheimer's disease: A case-control study
AUTHOR(S): Tully, A. M.; Roche, H. M.; Doyle, R.; Fallon, C.; Bruce, I.; Lawlor, B.; Coakley, D.; Gibney, M. J.
CORPORATE SOURCE: Unit of Nutrition, Department of Clinical Medicine, Trinity Centre for Health Sciences, Dublin, 8, Ire.
SOURCE: British Journal of Nutrition (2003), 89(4), 483-489
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Low n-3 polyunsatd. fatty acid (PUFA) nutritional status may be assocd. with neurodegenerative disorders, esp. Alzheimer disease, which have been assocd. with low dietary fish or n-3 PUFA intakes and low docosahexaenoic acid (DHA, C22:6n-3) status. This case-control study used blood serum cholesteryl ester fatty acid compn. as biomarker of dietary n-3 PUFA intake to det. the n-3 PUFA nutritional status in free-living patients with Alzheimer disease. Detailed neuropsychol. testing and neuroimaging confirmed the diagnosis. The subjects (119 women, 29 men) aged 76.cntdot.5.+-.6.cntdot.6 yr had clin. dementia rating (CDR) of 1.+-.0.cntdot.62 and mini mental state examn. (MMSE) score of 19.cntdot.5.+-.4.cntdot.8. The controls (36 women, 9 men) aged 70.+-.6.cntdot.0 yr were not cognitively impaired (MMSE score 28.cntdot.9.+-.1.cntdot.1). Blood serum levels of cholesterol ester with eicosapentaenoic acid (C20:5n-3) and DHA were lower in all MMSE score quartiles of patients with Alzheimer disease compared with controls. Serum levels of cholesterol ester with DHA were progressively decreased with severity of clin. dementia. The DHA levels did not differ in patients with Alzheimer disease across the age quartiles, but all were consistently lower than in controls. Step-wise multiple regression anal. showed that cholesterol ester with DHA and total satd. fatty acid levels were important determinants of MMSE scores and CDR. It remains to be detd. whether low DHA nutritional status is a casual factor in the pathogenesis and progression of Alzheimer disease.
IT **70110-50-8**, Cholesteryl cervonate **74892-97-0**, Cholesteryl 5,8,11,14,17-eicosapentaenoate
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(blood serum low levels of cholesterol esters with docosahexaenoic and eicosapentaenoic acids in patients with Alzheimer disease)
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



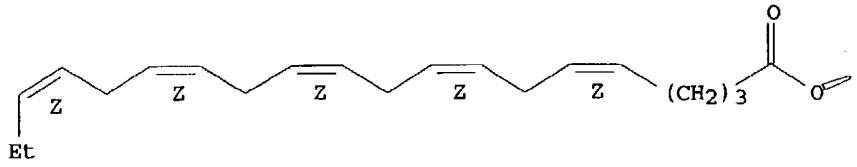
PAGE 1-B

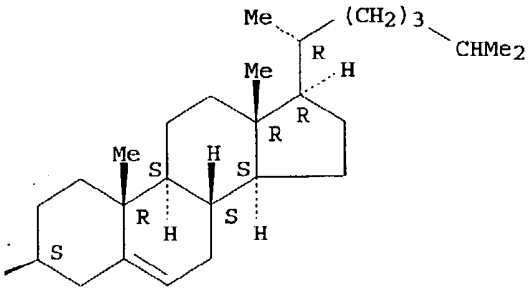


RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A





REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:102282 HCAPLUS
DOCUMENT NUMBER: 138:353186
TITLE: Association of n-3 polyunsaturated fatty acids with stability of atherosclerotic plaques: a randomised controlled trial
AUTHOR(S): Thies, Frank; Garry, Jennifer M. C.; Yaqoob, Parveen; Rerkasem, Kittipan; Williams, Jennifer; Shearman, Cliff P.; Gallagher, Patrick J.; Calder, Philip C.; Grimble, Robert F.
CORPORATE SOURCE: Institute of Human Nutrition, University of Southampton, Southampton, SO16 7PX, UK
SOURCE: Lancet (2003), 361(9356), 477-485
CODEN: LANCAO; ISSN: 0140-6736
PUBLISHER: Lancet Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The n-3 polyunsatd. fatty acids (PUFA) from fatty fish protect against death from cardiovascular diseases. Incorporation of n-3 and n-6 PUFA into advanced atherosclerotic plaques may increase and decrease the plaque stability, resp. Patients awaiting carotid endoarterectomy were divided into control and sunflower oil (n-6 PUFA) or fish oil (n-3 PUFA) supplemented groups until surgery. The primary outcome was plaque morphol. indicative of stability or instability. The other outcome measures were concns. of eicosapentaenoic acid (EPA, C20:5n-3), docosahexaenoic acid (DHA, C22:6n-3), and linoleic acid (C18:2n-6) in the removed carotid plaques, plaque morphol., and presence of macrophages in plaques. Of the 188 patients enrolled in the study 18 withdrew and 8 were excluded. Duration of the oil treatment was 7-189 days (median 42) and did not differ between the groups. The proportions of EPA and DHA in plaque phospholipids, cholesterol esters, and triacylglycerols were higher in carotid plaque fractions in patients receiving fish oil vs. controls (abs. difference 0.cntdot.5 [95% CI 0.cntdot.3-0.cntdot.7], 0.cntdot.4 [0.cntdot.1-0.cntdot.6], and 0.cntdot.2 [0.cntdot.1-0.cntdot.4] g/100 g total fatty acids for EPA; and 0.cntdot.3 [0.cntdot.0-0.cntdot.8], 0.cntdot.4 [0.cntdot.1-0.cntdot.7], and 0.cntdot.3 [0.cntdot.1-0.cntdot.6] g/100 g total fatty acids for DHA, resp.). Sunflower oil had little effect on the fatty acid compn. of the lipid fractions. Fewer plaques from patients treated with fish oil had thin fibrous caps and signs of inflammation and more plaques had thick fibrous caps and no signs of inflammation, compared with plaques from patients in the control and sunflower oil groups (odds ratio 0.cntdot.52 [95% CI 0.cntdot.24-

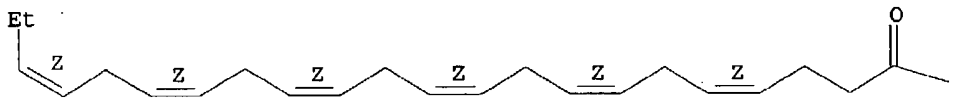
0.cntdot.89] and 1.cntdot.19 [1.cntdot.02-1.cntdot.57] vs. control; 0.cntdot.49 [0.cntdot.23-0.cntdot.90] and 1.cntdot.16 [1.cntdot.01-1.cntdot.53] vs. sunflower oil). The no. of macrophages in plaques from patients receiving fish oil was lower than in the other 2 groups. Carotid plaque morphol. and infiltration by macrophages did not differ between control and sunflower oil groups. Thus, atherosclerotic plaques readily incorporated n-3 PUFA from dietary fish oil supplement that can enhance the stability of atherosclerotic plaques. Increased consumption of n-6 PUFA did not affect the carotid plaque fatty acid compn. or stability in this study. Stability of plaques could explain the decrease in non-fatal and fatal cardiovascular events assocd. with increased dietary n-3 PUFA intake.

IT **70110-50-8**, Cholesteryl cervonate **74892-97-0**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dietary fish and sunflower oils and n-3 polyunsatd. fatty acids effects on stability of atherosclerotic plaques in humans)

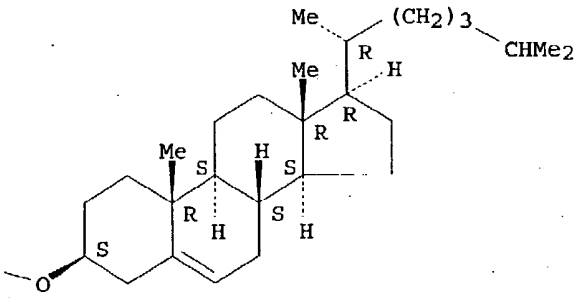
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



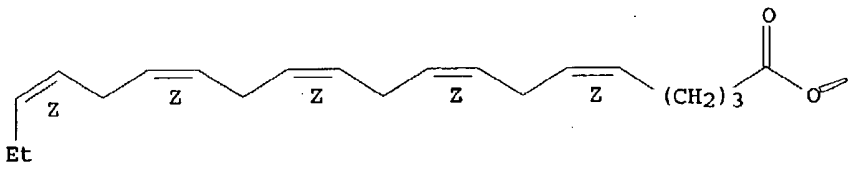
PAGE 1-B



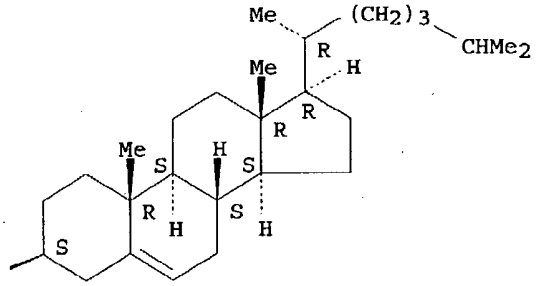
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:869591 HCAPLUS
DOCUMENT NUMBER: 137:363112
TITLE: Cyclooxygenase inhibitors, lipoxygenase inhibitors, and fatty acid-coenzme A ligase inhibitors for the potentiation of the therapeutic effects of fatty acids
INVENTOR(S): Horrobin, David Frederick
PATENT ASSIGNEE(S): UK
SOURCE: U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002169209	A1	20021114	US 2002-134501	20020430
PRIORITY APPLN. INFO.:			GB 2001-11282 A	20010505

AB The oral administration of an essential fatty acid, preferably eicosapentaenoic acid, at a defined purity together with an inhibitor of COX-1 or COX-2 or LOX or one or more of the FACL enzymes gives improved therapeutic results over administration of the fatty acid alone.

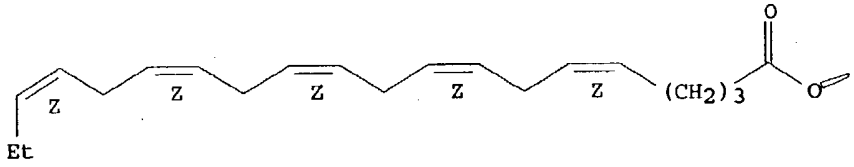
IT **74892-97-0 74892-97-0D**, derivs.
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cyclooxygenase inhibitors, lipoxygenase inhibitors, and fatty acid-coenzme A ligase inhibitors for potentiation of therapeutic effect of fatty acid)

RN 74892-97-0 HCAPLUS

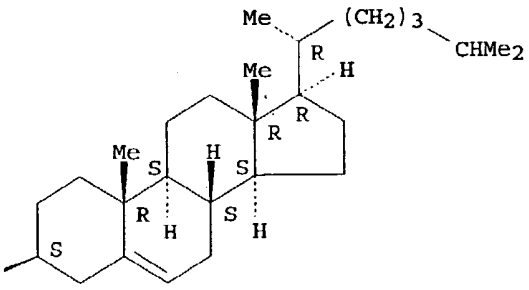
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

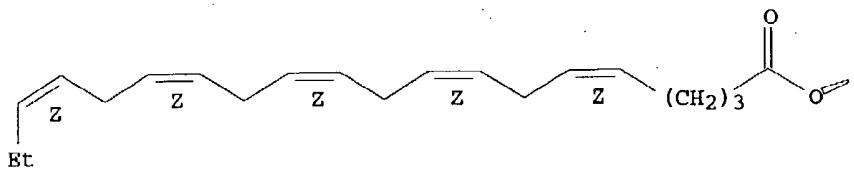


RN 74892-97-0 HCAPLUS

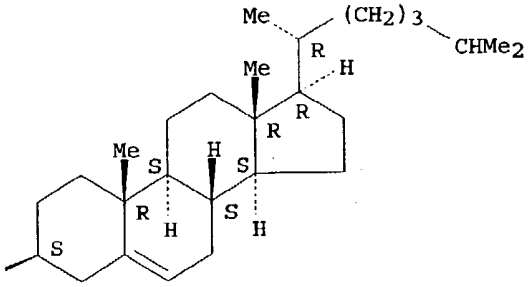
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2001:815999 HCAPLUS
DOCUMENT NUMBER:	136:83884
TITLE:	Alteration of plasma HDL cholesteryl ester composition with transgenic expression of a point mutation (E149A) of human LCAT
AUTHOR(S):	Furbee, James W., Jr.; Francone, Omar; Parks, John S.
CORPORATE SOURCE:	Department of Pathology, Section on Comparative Medicine, Wake Forest University School of Medicine, Winston-Salem, NC, 27157-1040, USA
SOURCE:	Journal of Lipid Research (2001), 42(10), 1626-1635 CODEN: JLPRAW; ISSN: 0022-2275
PUBLISHER:	Lipid Research, Inc.
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The authors have previously identified a single amino acid mutation (hE149A) in human LCAT that increases its in vitro reactivity with phosphatidylcholine species contg. sn-2 arachidonate. The purpose of the present study was to det. whether in vivo overexpression of hE149A compared with human wild-type LCAT (hLCAT-wt) would be sufficient to enrich the steady state compn. of plasma HDL cholesteryl esters (CE) with long chain (>18 carbon) polyunsatd. fatty acyl species. Transgenic lines with 20-fold overexpression of hLCAT were created and studied between 12 and 16 wk of age while consuming a chow diet. Transgenic overexpression

of hE149A compared with hLCAT-wt significantly enriched HDL with CE species contg. 20:4 (45%) and 22:6 n-3 (108%), at the expense of those contg. 18:2, without a significant change in the plasma HDL concn., particle size, or phospholipid fatty acyl compn. Removing the contribution of endogenous mouse LCAT by crossing the transgenic mice into the mouse LCAT knockout background resulted in even greater changes in HDL CE compn., with a 2.4-, 5-, and 5-fold increase in 20:4, 20:5 n-3, and 22:6 n-3 cholesteryl esters in the hE149A mice compared with hLCAT-wt Tg mice, resp. The authors' results demonstrate that in vivo expression of hE149A significantly enriches HDL cholesteryl esters in 20- and 22-carbon fatty acyl species without affecting HDL concn. or size. Furthermore, the data suggest that endogenous mouse LCAT in hLCAT transgenic mice contributes to the plasma HDL CE pool out of proportion to its mass, presumably because the hLCAT transgene is poorly activated by mouse apolipoprotein A-I.

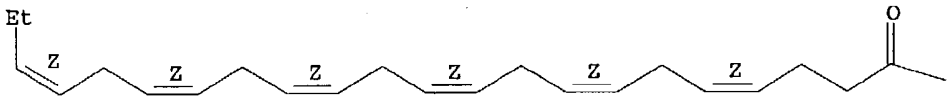
IT **70110-50-8**, Cholesteryl cervonate **74892-97-0**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(alteration of plasma HDL cholesteryl ester compn. with transgenic expression of point mutation (E149A) of human LCAT in relation to atherosclerosis)

RN 70110-50-8 HCAPLUS

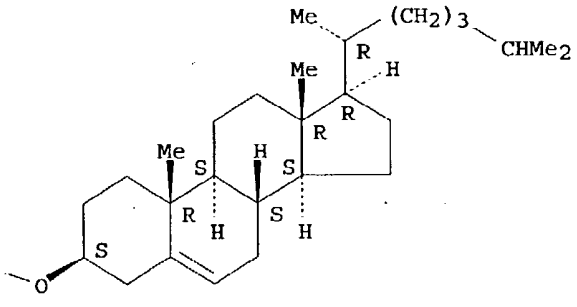
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



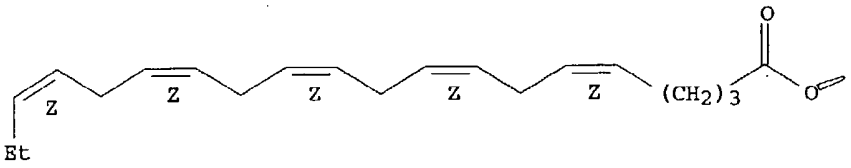
PAGE 1-B



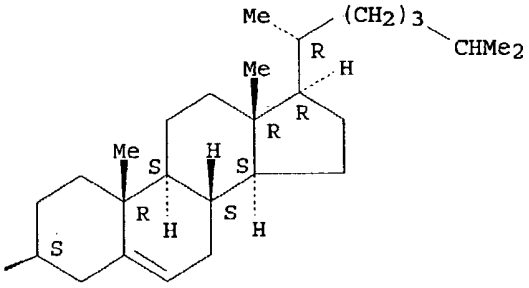
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:614311 HCAPLUS
DOCUMENT NUMBER: 133:281062
TITLE: Measurement of free cholesterol, cholesteryl esters and cholesteryl linoleate hydroperoxide in copper-oxidised low density lipoprotein in healthy volunteers supplemented with a low dose of n-3 polyunsaturated fatty acids
AUTHOR(S): Higgins, Siobhan; McCarthy, Sinead N.; Corridan, Bernice M.; Roche, Helen M.; Wallace, Julie M. W.; O'Brien, Nora M.; Morrissey, Patrick A.
CORPORATE SOURCE: Division of Nutritional Sciences, Department of Food Science and Technology, University College, Cork, Ire.
SOURCE: Nutrition Research (New York) (2000), 20(8), 1091-1102
CODEN: NTRSDC; ISSN: 0271-5317

PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

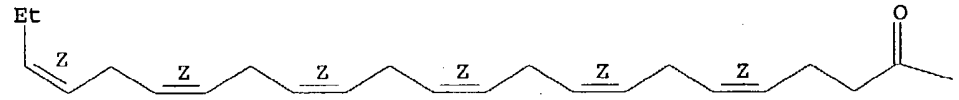
AB The effects of daily dietary supplementation with n-3 polyunsatd. fatty acids (PUFA) on the oxidative modification of low-d. lipoproteins (LDL) were studied in healthy humans. They were given 0.9 g n-3 PUFA as fish oil (FO group) or 0.9 g olive oil (CO control group) for 16 wk. The oxidative modification of LDL was assessed by measuring concns. of free cholesterol, cholesteryl esters, and cholesteryl linoleate hydroperoxide (Ch18:2-OOH) in LDL following Cu-induced lipid peroxidn. for 0, 2, 3, and 4 h. The compn. of LDL fatty acids over 4 h of the Cu-induced oxidn. was also evaluated. The LDL eicosapentaenoic acid (C20:5n-3) and docosahexaenoic acid (C22:6n-3) contents were higher in the FO vs. CO group following oil supplementation. Linoleic acid (C18:2n-6), arachidonic acid (C20:4n-6), C20:5n-3, and C22:6n-3 were oxidized in LDL following 4 h of Cu-induced oxidn. The proportions of palmitic acid (C16:0), palmitoleic acid (C16:1n-7), stearic acid (C18:0), and oleic acid (C18:1n-9) increased in the FO and CO groups after 4 h of Cu-induced oxidn. The concns. of cholesteryl oleate, cholesteryl linoleate, cholesteryl arachidonate, and cholesteryl docosahexaenoate were decreased following the Cu-induced oxidn. in both groups. The Ch18:2-OOH concns. were increased following 3 h of oxidn. in both groups compared with 0 h Cu-induced oxidn., but decreased after 4 h. There was no significant difference in the concns. of Ch18:2-OOH between the groups during Cu-induced oxidn. Thus, moderate dietary intakes of n-3 PUFA may not significantly influence the susceptibility of LDL to Cu-induced oxidn. in vitro.

IT **70110-50-8**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary fish oil n-3 polyunsatd. fatty acids relation to blood free cholesterol, cholesteryl esters and cholesteryl linoleate hydroperoxide in Cu-oxidized low-d. lipoprotein in healthy humans)

RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

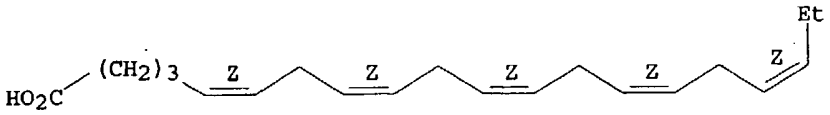
Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



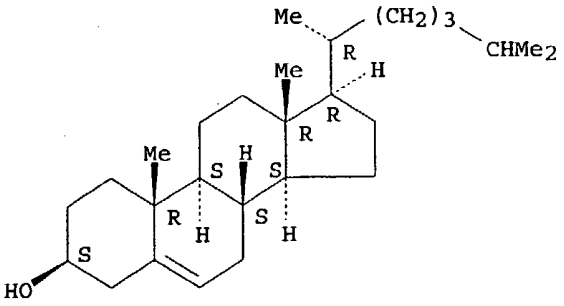
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



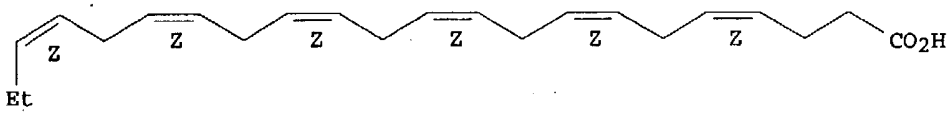
L39 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:625067 HCAPLUS
DOCUMENT NUMBER: 119:225067
TITLE: Incorporation of dietary n-3 fatty acids into molecular species of phosphatidyl choline and cholesteryl ester in normal human plasma
AUTHOR(S): Subbaiah, Papasani V.; Kaufman, David; Bagdade, John D.
CORPORATE SOURCE: Dep. Med., Rush Med. Coll., Chicago, IL, USA
SOURCE: American Journal of Clinical Nutrition (1993), 58(3), 360-8
CODEN: AJCNAC; ISSN: 0002-9165
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To understand the differences in the antiatherogenic actions of eicosapentaenoic acid (EPA, 20:5) and docosahexaenoic acid (DHA, 22:6), the authors detd. their incorporation into mol. species of phosphatidylcholine (PC) and cholesteryl ester (CE) after feeding 12 g marine lipid conc./d to six normolipidemic males for 28 d. The time course of incorporation of EPA into plasma PC and CE showed a precursor-product relationship. In contrast, the DHA concn. of CE was markedly lower than that in PC, and the EPA-DHA ratio was 2-6 fold higher in CE than in PC at all time intervals. Three PC species - 16:0-20:5, 16:0-22:6, and 18:0-20:5 - increased, whereas 18:1-18:2, 18:0-18:2, and 16:0-20:3 decreased. In vitro formation of CE species in plasma by lecithin-cholesterol acyltransferase (LCAT) showed an increased formation of 20:5 CE but not 22:6 CE, indicating that DHA is a poor substrate for LCAT. These results demonstrate a differential incorporation of EPA and DHA into plasma lipids, which may be related to the differences in their biol. effects.
IT **57-88-5D**, Cholesterol, esters
RL: FORM (Formation, nonpreparative)
(formation of, with EPA and DHA in humans)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



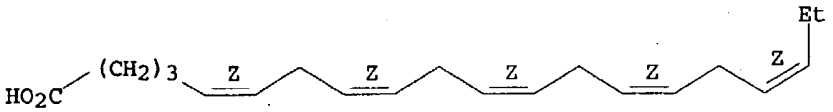
IT **6217-54-5**, Cervonic acid **10417-94-4**, Timnodonic acid
RL: BIOL (Biological study)
(utilization of, in humans, phosphatidylcholines and cholesterol esters formation in relation to)
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

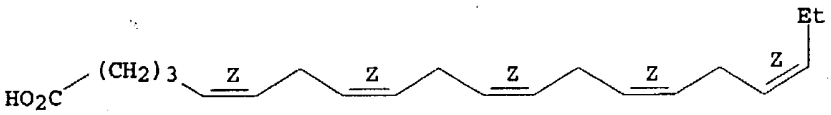


L39 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:406831 HCAPLUS
DOCUMENT NUMBER: 117:6831
TITLE: Atlantic salmon (Salmo salar) muscle lipids and their response to alternative dietary fatty acid sources
AUTHOR(S): Polvi, Sherilyn M.; Ackman, Robert G.
CORPORATE SOURCE: Can. Inst. Fish. Technol., Tech. Univ. Nova Scotia, Halifax, NS, B3J 2X4, Can.
SOURCE: Journal of Agricultural and Food Chemistry (1992), 40(6), 1001-7
CODEN: JAFCAU; ISSN: 0021-8561
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Post-smolt Atlantic salmon (S. salar) were fed one of four diets with 10% of lipid sources differing in fatty acid combinations. Growth over several months provided newly formed lipids, representing dietary fatty acid input, for study. Edible muscle from each diet group, including one

fillet frozen for several months at -12.degree., was extd., and the classes in total lipid were detd. Slight hydrolysis of phospholipids during frozen storage was detected. The fatty acids of phospholipids were readily altered to take up dietary 18:1n-9, 18:2n-6, 18:3n-3, and 20:5n-3. The triglycerides responded in a similar fashion but excluded dietary 18:3n-3 and 20:4n-6. There was no evidence of practical-scale conversion of dietary 18:2n-6 to 20:4n-6 or of 18:3n-3 to 20:5n-3 or 22:6n-3.

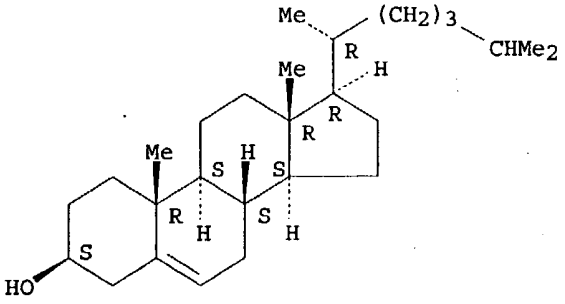
IT **10417-94-4**
RL: BIOL (Biological study)
(of lipids of Atlantic salmon muscles, dietary fatty acid sources effect on, lipids of fish during frozen storage in relation to)
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **57-88-5**, Cholesterol, biological studies
RL: BIOL (Biological study)
(of muscles of Atlantic salmon, dietary fatty acids effect on, frozen storage of fish in relation to)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L39 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:177399 HCAPLUS
DOCUMENT NUMBER: 112:177399
TITLE: Reduced arachidonate in serum phospholipids and cholesteryl esters associated with vegetarian diets in humans
AUTHOR(S): Phinney, Stephen D.; Odin, Rosalind S.; Johnson, Susan B.; Holman, Ralph T.
CORPORATE SOURCE: Dep. Food Sci. Nutr., St. Paul, MN, USA
SOURCE: American Journal of Clinical Nutrition (1990), 51(3), 385-92
CODEN: AJCNAC; ISSN: 0002-9165
DOCUMENT TYPE: Journal

LANGUAGE: English

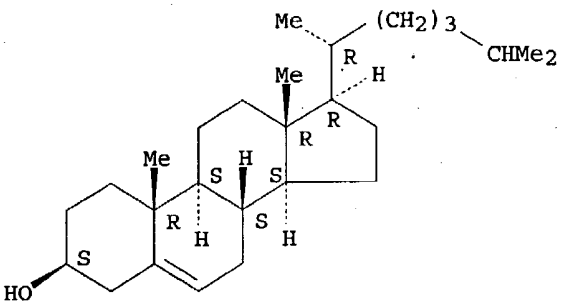
AB Lipid fractions, such as phospholipids (PLs), cholesteryl esters (CEs), and free fatty acids (FFAs), represent source pools for eicosanoid synthesis. To det. whether dietary habits affect the enrichment of 20:4n-6 in these precursor pools, humans with partial or complete arachidonate restriction resulting from chronic avoidance of animal fat and tissue were investigated. Fasting serum was obtained from omnivorous control subjects (Omni), semivegetarians (Semiveg), and vegetarians (Veg). PLs, CEs, FFAs, and triglyceride (TG) fatty acids were quantitated by TLC and gas chromatog. Serum 20:4n-6 was lower in the PL fraction in both Veg and Semiveg groups than in the Omni group and lower in the CE fraction in the Veg group. Serum 18:2n-6 did not differ among the groups for any serum lipid fraction. 18:3n-3 Was elevated in PLs and CEs of both Veg and Semiveg groups compared with the Omni group, but did not result in differences in 20:5n-3 in PLs or CEs among the dietary groups. The lower concn. of 20:4n-6 in serum PLs and CEs of the Veg group indicates that dietary arachidonic acid enriches its circulating pool in humans; however, 20:5n-3 is not similarly responsive to dietary restriction.

IT **57-88-5D**, Cholesterol, esters
RL: BIOL (Biological study)
(arachidonate of, of blood serum of humans, vegetarian diet redn. of)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

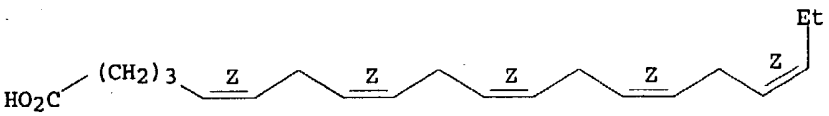


IT **10417-94-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metab. of, in humans on vegetarian diet)

RN 10417-94-4 HCAPLUS

CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

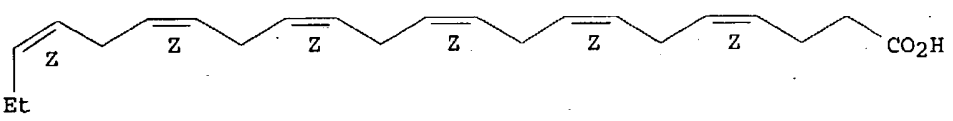


IT **6217-54-5**
RL: BIOL (Biological study)
(of lipids, of blood serum of humans on vegetarian diet)

RN 6217-54-5 HCAPLUS

CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L39 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:456304 HCAPLUS
DOCUMENT NUMBER: 111:56304
TITLE: .omega.-3 Fatty acids increase the arachidonic acid content of liver cholesterol ester and plasma triacylglycerol fractions in the rat
AUTHOR(S): Garg, Manohar L.; Wierzbicki, Antoni A.; Thomson, Alan B. R.; Clandinin, M. Thomas
CORPORATE SOURCE: Fac. Home Econ., Univ. Alberta, Edmonton, AB, T6G 2C2, Can.
SOURCE: Biochemical Journal (1989), 261(1), 11-15
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Recent studies have demonstrated that dietary fish oils rich in eicosapentaenoic acid (C20:5,.omega.3) lower the content of arachidonic acid and its metabolites in plasma and tissue phospholipids. The present study examd. the fatty acid compn. of cholesterol ester and triacylglycerol fractions from plasma and livers of rats fed diets enriched with satd. fatty acids (beef tallow), .alpha.-linolenic acid (linseed oil) or eicosapentaenoic acid (fish oil). Feeding diets contg. linseed oil or fish oil for 28 days increased arachidonic acid (C20:4,.omega.6) levels in the cholesterol ester fraction of liver and in the triacylglycerol fraction of the plasma lipids. Plasma cholesterol esters were depleted of C20:4,.omega.6 after feeding of the diet contg. either linseed oil or fish oil. The changes in C20:4,.omega.6 content cannot be explained by alterations in cholesterol ester or triacylglycerol pools of plasma dn liver. Evidently, the decrease in phospholipid C20:4,.omega.6 content generally obsd. after fish oil consumption may be partly due to a shift of C20:4,.omega.6 from phospholipid to the triacylglycerol and(or) cholesterol ester pools in the same tissue. Triacylglycerols and cholesterol esters may therefore play a buffering role in the homeostatic maintenance of tissue phospholipid levels of arachidonic acid.

IT **57-88-5D**, Cholesterol, esters
RL: BIOL (Biological study)
(arachidonic acid and other fatty acids of, of blood plasma and liver, dietary .omega.-3 fatty acids effect on)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

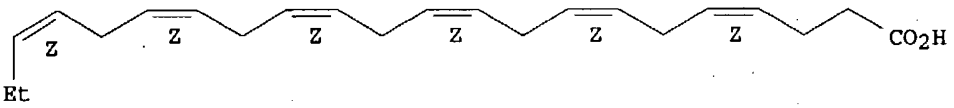
TITLE: Bioavailability of n-3 fatty acid formulations
AUTHOR(S): Dyerberg, J.; Madsen, P.; Moeller, J.; Aardestrup, I.; Schmidt, E. B.
CORPORATE SOURCE: Medi-Lab a.s., Copenhagen, Den.
SOURCE: n-3 Fatty Acids: Prevention and Treatment in Vascular Disease, [Proceedings of the Oral Presentations from the Workshop on Preventive Strategies in Vascular Disease: Focus on n-3 Fatty Acids], 2nd, Cambridge, UK, Apr. 4-5, 1995 (1995), 217-226. Editor(s): Kristensen, Steen D. Bi & Gi: Verona, Italy. CODEN: 63BPAB
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The use of marine n-3 polyunsatd. fatty acids (FA) as food supplements has prompted the development of concd. formulations to overcome patient compliance problems related to the natural, rather low concd. fish oils. Conflicting data on the bioavailability of these prepns. initiated the present study, which compares 3 concd. n-3 FA prepns. - Et esters, free fatty acids, and reesterified triglycerides - with placebo oil in a double-blinded design. Two single-blinded arms with natural fish body oil and cod-liver oil were also included in the study. The study comprised 72 volunteers divided into 6 groups who were given approx. 3.3 g of eicosapentaenoic acid (EPA) plus docosahexaenoic acid (DHA) daily for 2 wks. The increase from baseline in abs. amts. of EPA and DHA in fasting serum triglycerides, cholesterol esters, and phospholipids was examd. Consistent patterns for the 3 serum lipid fractions were obsd. The bioavailability of EPA + DHA from reesterified triglycerides was superior (124%) as compared with natural fish oil triglycerides, whereas the bioavailability of EPA + DHA from Et esters was inferior (73%). Free fatty acid bioavailability (91%) did not differ substantially from natural triglycerides. The study further demonstrated that fatty acid stereochem. of the acylglycerols does not influence the bioavailability of EPA and DHA in man.

IT **6217-54-5**, Docosahexaenoic acid **10417-94-4**, Eicosapentaenoic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); PROC (Process); USES (Uses)
(bioavailability of eicosapentaenoic and docosahexaenoic fatty acids from formulations of free fatty acids and Et esters and reesterified triglycerides in relation to blood lipid compn.)

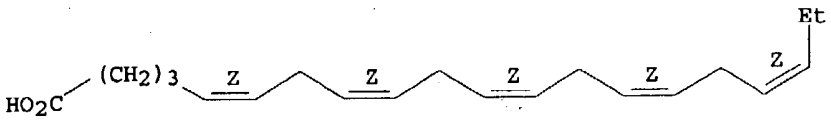
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



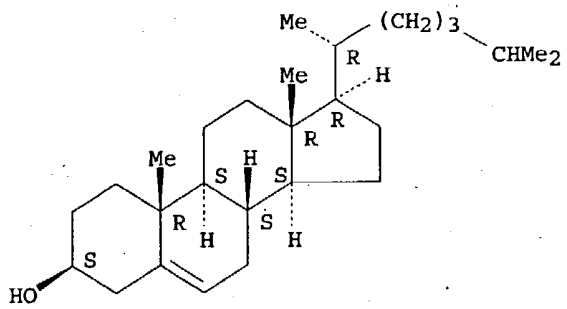
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 57-88-5D, Cholesterol, esters
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(bioavailability of eicosapentaenoic and docosahexaenoic fatty acids from formulations of free fatty acids and Et esters and reesterified triglycerides in relation to compn. of blood cholesterol esters and other lipids)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



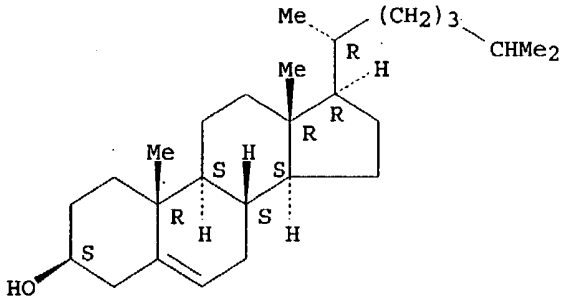
L39 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:117564 HCAPLUS
DOCUMENT NUMBER: 124:174488
TITLE: Chronic administration of eicosapentaenoic acid and docosahexaenoic acid as ethyl esters reduced plasma cholesterol and changed the fatty acid composition in rat blood and organs
AUTHOR(S): Froeyland, Livar; Vaagenes, Hege; Asiedu, Daniel K.; Garras, Alexis; Li, Oeyvind; Berge, Rolf K.
CORPORATE SOURCE: Dep. Clinical Biol., Univ. Bergen, Bergen, N-5021, Norway
SOURCE: Lipids (1996), 31(2), 169-78
CODEN: LPDSAP; ISSN: 0024-4201
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Fish oils rich in n-3 fatty acids have been shown to decrease plasma lipid levels, but the underlying mechanism has not yet been elucidated. This investigation was performed in order to further clarify the effects of purified Et esters of eicosapentaenoic acid (EPA-EE) and docosahexaenoic acid (DHA-EE) on lipid metab. in rats. The animals were fed EPA-EE, DHA-EE, palmitic acid, or corn oil (1 g/kg/d) by orogastric intubation along with a chow background diet for three months. At the end the animals were sacrificed. Plasma and liver lipids were measured, as well as lipid-related enzyme activities and mRNA levels. The fatty acid compn. of plasma and different tissues was also detd. This study shows that, compared to the corn oil control, EPA-EE and DHA-EE lowered the amt. of

plasma triacyglycerol. In liver peroxisomes, both EE prepns. increased fatty acyl-CoA oxidase FAO activities, and neither altered 3-hydroxy-3-methylglutaryl (HMG)-CoA reductase activities. In liver microsomes, EPA-EE raised HMG-CoA reductase and acyl-CoA cholesterol acyltransferase activities, where DHA-EE lowered the former and did not affect the latter. Neither product altered mRNA levels for HMG-CoA reductase, low d. lipoprotein-receptor, or low d. lipoprotein-receptor related protein. EPA-EE lowered plasma triacylglycerol, reflecting lowered very low d. lipoprotein secretion, thus the cholesterol lowering effect in EPA-EE-treated rats may be secondary to the hypotriacylglycerolemic effect. An inhibition of HMG-CoA reductase activity in DHA-EE treated rats may contribute to the hypocholesterolemic effect. The present study reports that 20:5n-3, and not 22:6n-3, is the fatty acid primarily responsible for the triacylglycerol lowering effect of fish oil. Finally, 20:5n-3 was not converted to 22:6n-3, whereas retroconversion of 22:6n-3 to 20:5n-3 was obsd.

IT **57-88-5**, Cholesterol, biological studies
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(chronic administration of eicosapentaenoic acid and docosahexaenoic acid as Et esters reduced plasma cholesterol and changed the fatty acid compn. in rat blood and organs)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

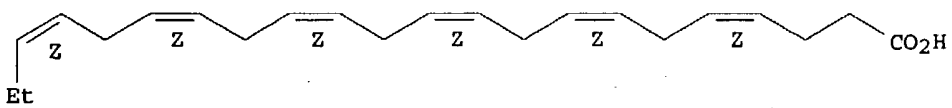
Absolute stereochemistry.



IT **6217-54-5**, Cervonic acid **10417-94-4**, Timnodonic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(chronic administration of eicosapentaenoic acid and docosahexaenoic acid as Et esters reduced plasma cholesterol and changed the fatty acid compn. in rat blood and organs)

RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



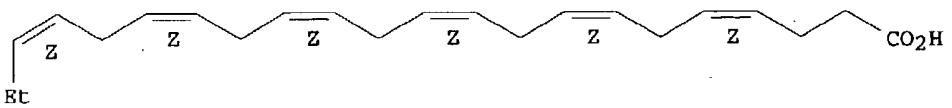
TITLE: Bioavailability of n-3 fatty acid formulations
AUTHOR(S): Dyerberg, J.; Madsen, P.; Moeller, J.; Aardestrup, I.; Schmidt, E. B.
CORPORATE SOURCE: Medi-Lab a.s., Copenhagen, Den.
SOURCE: n-3 Fatty Acids: Prevention and Treatment in Vascular Disease, [Proceedings of the Oral Presentations from the Workshop on Preventive Strategies in Vascular Disease: Focus on n-3 Fatty Acids], 2nd, Cambridge, UK, Apr. 4-5, 1995 (1995), 217-226. Editor(s): Kristensen, Steen D. Bi & Gi: Verona, Italy. CODEN: 63BPAB
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The use of marine n-3 polyunsatd. fatty acids (FA) as food supplements has prompted the development of concd. formulations to overcome patient compliance problems related to the natural, rather low concd. fish oils. Conflicting data on the bioavailability of these prepns. initiated the present study, which compares 3 concd. n-3 FA prepns. - Et esters, free fatty acids, and reesterified triglycerides - with placebo oil in a double-blinded design. Two single-blinded arms with natural fish body oil and cod-liver oil were also included in the study. The study comprised 72 volunteers divided into 6 groups who were given approx. 3.3 g of eicosapentaenoic acid (EPA) plus docosahexaenoic acid (DHA) daily for 2 wks. The increase from baseline in abs. amts. of EPA and DHA in fasting serum triglycerides, cholesterol esters, and phospholipids was examd. Consistent patterns for the 3 serum lipid fractions were obsd. The bioavailability of EPA + DHA from reesterified triglycerides was superior (124%) as compared with natural fish oil triglycerides, whereas the bioavailability of EPA + DHA from Et esters was inferior (73%). Free fatty acid bioavailability (91%) did not differ substantially from natural triglycerides. The study further demonstrated that fatty acid stereochem. of the acylglycerols does not influence the bioavailability of EPA and DHA in man.

IT **6217-54-5**, Docosahexaenoic acid **10417-94-4**, Eicosapentaenoic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); PROC (Process); USES (Uses)
(bioavailability of eicosapentaenoic and docosahexaenoic fatty acids from formulations of free fatty acids and Et esters and reesterified triglycerides in relation to blood lipid compn.)

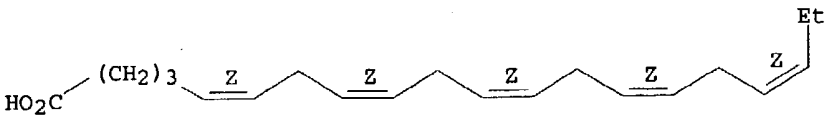
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



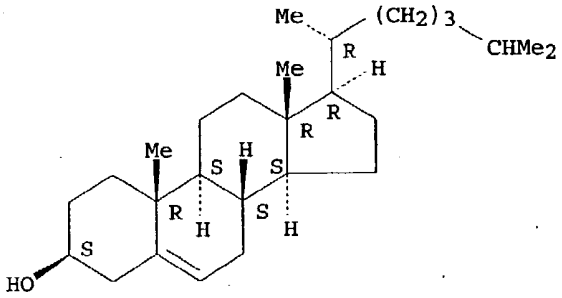
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **57-88-5D**, Cholesterol, esters
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(bioavailability of eicosapentaenoic and docosahexaenoic fatty acids from formulations of free fatty acids and Et esters and reesterified triglycerides in relation to compn. of blood cholesterol esters and other lipids)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L39 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:117564 HCAPLUS
DOCUMENT NUMBER: 124:174488
TITLE: Chronic administration of eicosapentaenoic acid and docosahexaenoic acid as ethyl esters reduced plasma cholesterol and changed the fatty acid composition in rat blood and organs
AUTHOR(S): Froeyland, Livar; Vaagenes, Hege; Asiedu, Daniel K.; Garras, Alexis; Li, Oeyvind; Berge, Rolf K.
CORPORATE SOURCE: Dep. Clinical Biol., Univ. Bergen, Bergen, N-5021, Norway
SOURCE: Lipids (1996), 31(2), 169-78
CODEN: LPDSAP; ISSN: 0024-4201
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Fish oils rich in n-3 fatty acids have been shown to decrease plasma lipid levels, but the underlying mechanism has not yet been elucidated. This investigation was performed in order to further clarify the effects of purified Et esters of eicosapentaenoic acid (EPA-EE) and docosahexaenoic acid (DHA-EE) on lipid metab. in rats. The animals were fed EPA-EE, DHA-EE, palmitic acid, or corn oil (1 g/kg/d) by orogastric intubation along with a chow background diet for three months. At the end the animals were sacrificed. Plasma and liver lipids were measured, as well as lipid-related enzyme activities and mRNA levels. The fatty acid compn. of plasma and different tissues was also detd. This study shows that, compared to the corn oil control, EPA-EE and DHA-EE lowered the amt. of

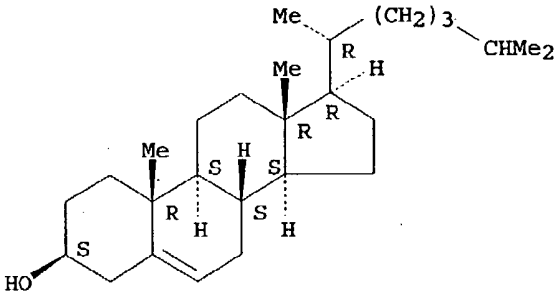
plasma triacyglycerol. In liver peroxisomes, both EE prepns. increased fatty acyl-CoA oxidase FAO activities, and neither altered 3-hydroxy-3-methylglutaryl (HMG)-CoA reductase activities. In liver microsomes, EPA-EE raised HMG-CoA reductase and acyl-CoA cholesterol acyltransferase activities, where DHA-EE lowered the former and did not affect the latter. Neither product altered mRNA levels for HMG-CoA reductase, low d. lipoprotein-receptor, or low d. lipoprotein-receptor related protein. EPA-EE lowered plasma triacylglycerol, reflecting lowered very low d. lipoprotein secretion, thus the cholesterol lowering effect in EPA-EE-treated rats may be secondary to the hypotriacylglycerolemic effect. An inhibition of HMG-CoA reductase activity in DHA-EE treated rats may contribute to the hypocholesterolemic effect. The present study reports that 20:5n-3, and not 22:6n-3, is the fatty acid primarily responsible for the triacylglycerol lowering effect of fish oil. Finally, 20:5n-3 was not converted to 22:6n-3, whereas retroconversion of 22:6n-3 to 20:5n-3 was obsd.

IT **57-88-5**, Cholesterol, biological studies
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(chronic administration of eicosapentaenoic acid and docosahexaenoic acid as Et esters reduced plasma cholesterol and changed the fatty acid compn. in rat blood and organs)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

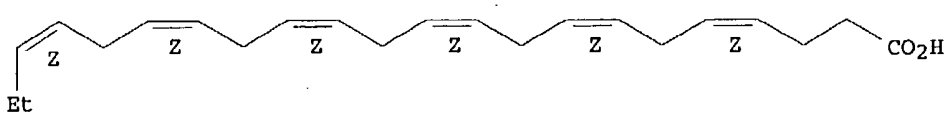


IT **6217-54-5**, Cervonic acid **10417-94-4**, Timnodonic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(chronic administration of eicosapentaenoic acid and docosahexaenoic acid as Et esters reduced plasma cholesterol and changed the fatty acid compn. in rat blood and organs)

RN 6217-54-5 HCAPLUS

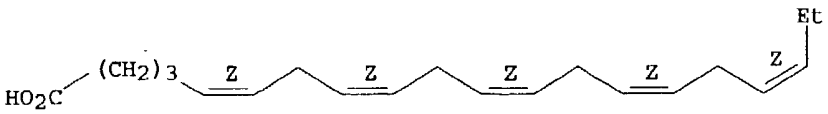
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



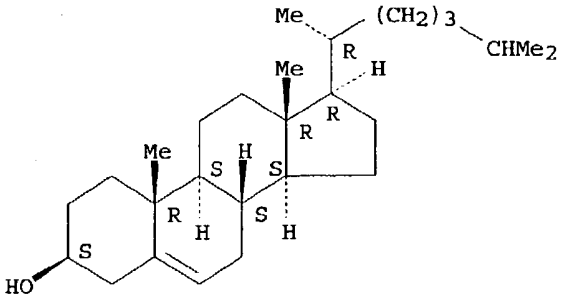
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



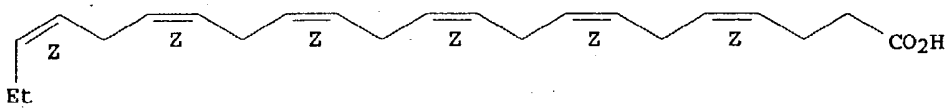
L39 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:625067 HCAPLUS
DOCUMENT NUMBER: 119:225067
TITLE: Incorporation of dietary n-3 fatty acids into molecular species of phosphatidyl choline and cholesteryl ester in normal human plasma
AUTHOR(S): Subbaiah, Papasani V.; Kaufman, David; Bagdade, John D.
CORPORATE SOURCE: Dep. Med., Rush Med. Coll., Chicago, IL, USA
SOURCE: American Journal of Clinical Nutrition (1993), 58(3), 360-8
CODEN: AJCNAC; ISSN: 0002-9165
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To understand the differences in the antiatherogenic actions of eicosapentaenoic acid (EPA, 20:5) and docosahexaenoic acid (DHA, 22:6), the authors detd. their incorporation into mol. species of phosphatidylcholine (PC) and cholesteryl ester (CE) after feeding 12 g marine lipid conc./d to six normolipidemic males for 28 d. The time course of incorporation of EPA into plasma PC and CE showed a precursor-product relationship. In contrast, the DHA concn. of CE was markedly lower than that in PC, and the EPA-DHA ratio was 2-6 fold higher in CE than in PC at all time intervals. Three PC species - 16:0-20:5, 16:0-22:6, and 18:0-20:5 - increased, whereas 18:1-18:2, 18:0-18:2, and 16:0-20:3 decreased. In vitro formation of CE species in plasma by lecithin-cholesterol acyltransferase (LCAT) showed an increased formation of 20:5 CE but not 22:6 CE, indicating that DHA is a poor substrate for LCAT. These results demonstrate a differential incorporation of EPA and DHA into plasma lipids, which may be related to the differences in their biol. effects.
IT **57-88-5D**, Cholesterol, esters
RL: FORM (Formation, nonpreparative)
(formation of, with EPA and DHA in humans)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



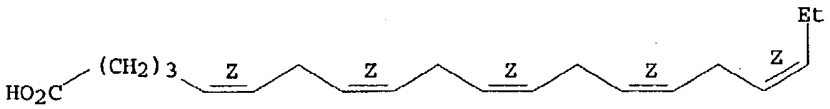
IT **6217-54-5**, Cervonic acid **10417-94-4**, Timnodonic acid
RL: BIOL (Biological study)
(utilization of, in humans, phosphatidylcholines and cholesterol esters formation in relation to)
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

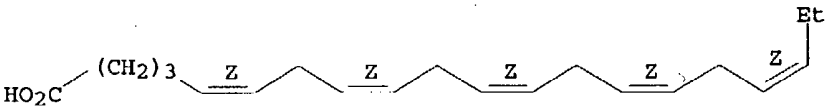


L39 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:406831 HCAPLUS
DOCUMENT NUMBER: 117:6831
TITLE: Atlantic salmon (Salmo salar) muscle lipids and their response to alternative dietary fatty acid sources
AUTHOR(S): Polvi, Sherilyn M.; Ackman, Robert G.
CORPORATE SOURCE: Can. Inst. Fish. Technol., Tech. Univ. Nova Scotia, Halifax, NS, B3J 2X4, Can.
SOURCE: Journal of Agricultural and Food Chemistry (1992), 40(6), 1001-7
CODEN: JAFCAU; ISSN: 0021-8561
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Post-smolt Atlantic salmon (S. salar) were fed one of four diets with 10% of lipid sources differing in fatty acid combinations. Growth over several months provided newly formed lipids, representing dietary fatty acid input, for study. Edible muscle from each diet group, including one

fillet frozen for several months at -12.degree., was extd., and the classes in total lipid were detd. Slight hydrolysis of phospholipids during frozen storage was detected. The fatty acids of phospholipids were readily altered to take up dietary 18:1n-9, 18:2n-6, 18:3n-3, and 20:5n-3. The triglycerides responded in a similar fashion but excluded dietary 18:3n-3 and 20:4n-6. There was no evidence of practical-scale conversion of dietary 18:2n-6 to 20:4n-6 or of 18:3n-3 to 20:5n-3 or 22:6n-3.

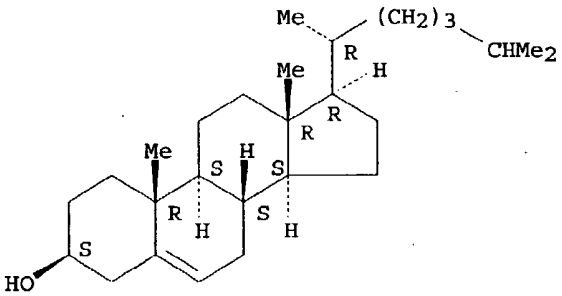
IT **10417-94-4**
RL: BIOL (Biological study)
(of lipids of Atlantic salmon muscles, dietary fatty acid sources effect on, lipids of fish during frozen storage in relation to)
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **57-88-5**, Cholesterol, biological studies
RL: BIOL (Biological study)
(of muscles of Atlantic salmon, dietary fatty acids effect on, frozen storage of fish in relation to)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L39 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:177399 HCAPLUS
DOCUMENT NUMBER: 112:177399
TITLE: Reduced arachidonate in serum phospholipids and cholesteryl esters associated with vegetarian diets in humans
AUTHOR(S): Phinney, Stephen D.; Odin, Rosalind S.; Johnson, Susan B.; Holman, Ralph T.
CORPORATE SOURCE: Dep. Food Sci. Nutr., St. Paul, MN, USA
SOURCE: American Journal of Clinical Nutrition (1990), 51(3), 385-92
CODEN: AJCNAC; ISSN: 0002-9165
DOCUMENT TYPE: Journal

LANGUAGE: English

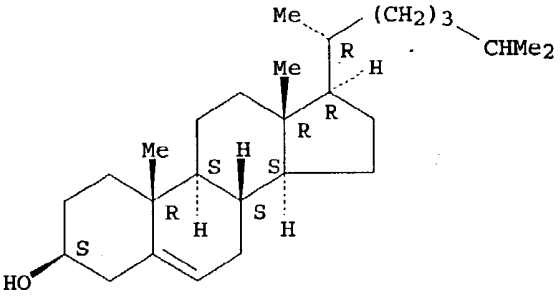
AB Lipid fractions, such as phospholipids (PLs), cholesteryl esters (CEs), and free fatty acids (FFAs), represent source pools for eicosanoid synthesis. To det. whether dietary habits affect the enrichment of 20:4n-6 in these precursor pools, humans with partial or complete arachidonate restriction resulting from chronic avoidance of animal fat and tissue were investigated. Fasting serum was obtained from omnivorous control subjects (Omni), semivegetarians (Semiveg), and vegetarians (Veg). PLs, CEs, FFAs, and triglyceride (TG) fatty acids were quantitated by TLC and gas chromatog. Serum 20:4n-6 was lower in the PL fraction in both Veg and Semiveg groups than in the Omni group and lower in the CE fraction in the Veg group. Serum 18:2n-6 did not differ among the groups for any serum lipid fraction. 18:3n-3 Was elevated in PLs and CEs of both Veg and Semiveg groups compared with the Omni group, but did not result in differences in 20:5n-3 in PLs or CEs among the dietary groups. The lower concn. of 20:4n-6 in serum PLs and CEs of the Veg group indicates that dietary arachidonic acid enriches its circulating pool in humans; however, 20:5n-3 is not similarly responsive to dietary restriction.

IT **57-88-5D**, Cholesterol, esters
RL: BIOL (Biological study)
(arachidonate of, of blood serum of humans, vegetarian diet redn. of)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

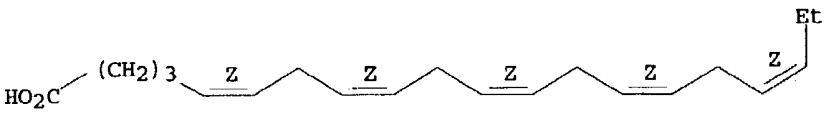


IT **10417-94-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metab. of, in humans on vegetarian diet)

RN 10417-94-4 HCAPLUS

CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

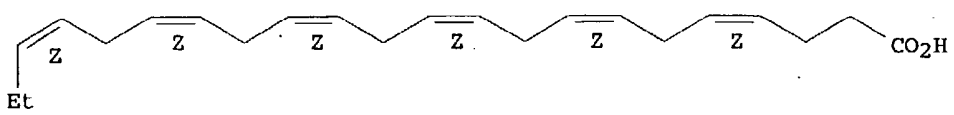


IT **6217-54-5**
RL: BIOL (Biological study)
(of lipids, of blood serum of humans on vegetarian diet)

RN 6217-54-5 HCAPLUS

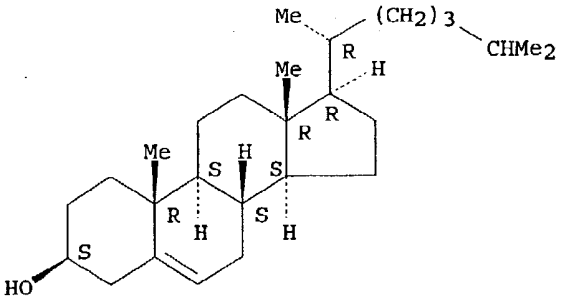
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



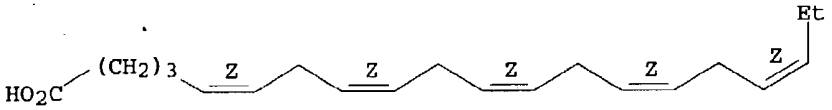
L39 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:456304 HCAPLUS
DOCUMENT NUMBER: 111:56304
TITLE: .omega.-3 Fatty acids increase the arachidonic acid content of liver cholesterol ester and plasma triacylglycerol fractions in the rat
AUTHOR(S): Garg, Manohar L.; Wierzbicki, Antoni A.; Thomson, Alan B. R.; Clandinin, M. Thomas
CORPORATE SOURCE: Fac. Home Econ., Univ. Alberta, Edmonton, AB, T6G 2C2, Can.
SOURCE: Biochemical Journal (1989), 261(1), 11-15
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Recent studies have demonstrated that dietary fish oils rich in eicosapentaenoic acid (C20:5,.omega.3) lower the content of arachidonic acid and its metabolites in plasma and tissue phospholipids. The present study examd. the fatty acid compn. of cholesterol ester and triacylglycerol fractions from plasma and livers of rats fed diets enriched with satd. fatty acids (beef tallow), .alpha.-linolenic acid (linseed oil) or eicosapentaenoic acid (fish oil). Feeding diets contg. linseed oil or fish oil for 28 days increased arachidonic acid (C20:4,.omega.6) levels in the cholesterol ester fraction of liver and in the triacylglycerol fraction of the plasma lipids. Plasma cholesterol esters were depleted of C20:4,.omega.6 after feeding of the diet contg. either linseed oil or fish oil. The changes in C20:4,.omega.6 content cannot be explained by alterations in cholesterol ester or triacylglycerol pools of plasma dn liver. Evidently, the decrease in phospholipid C20:4,.omega.6 content generally obsd. after fish oil consumption may be partly due to a shift of C20:4,.omega.6 from phospholipid to the triacylglycerol and(or) cholesterol ester pools in the same tissue. Triacylglycerols and cholesterol esters may therefore play a buffering role in the homeostatic maintenance of tissue phospholipid levels of arachidonic acid.
IT **57-88-5D**, Cholesterol, esters
RL: BIOL (Biological study)
(arachidonic acid and other fatty acids of, of blood plasma and liver, dietary .omega.-3 fatty acids effect on)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



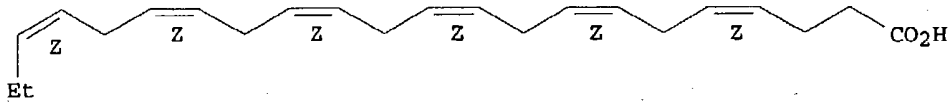
IT **10417-94-4**, Eicosapentaenoic acid
RL: BIOL (Biological study)
(arachidonic acid of liver cholesterol esters and plasma triglycerols response to dietary)
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **6217-54-5**
RL: BIOL (Biological study)
(of cholesterol esters and triacylglycerols, of blood plasma and liver, dietary .omega.-3 fatty acids effect on)
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L39 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:230539 HCAPLUS
DOCUMENT NUMBER: 110:230539
TITLE: Influence of the ratio of polyunsaturated fatty acids .omega.6 and .omega.3 in the ration of rats on the cholesterol content in the blood plasma and liver
AUTHOR(S): Arutyunova, M. B.; Vaskovskii, V. V.; Garbuzov, A. G.; Kulakova, S. N.; Latyshev, N. N.; Levachev, M. M.; Akulin, V. N.
CORPORATE SOURCE: Inst. Pitan, Moscow, USSR
SOURCE: Voprosy Pitaniya (1988), (6), 36-9
CODEN: VPITAR; ISSN: 0042-8833
DOCUMENT TYPE: Journal

LANGUAGE: Russian

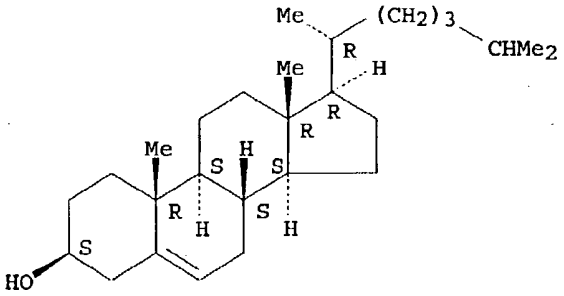
AB In rats (90 g) given diets contg. lard, sunflower oil, Ivasi sardine oil, sunflower oil + Ivasi oil, or an eicosapentaenoic acid prepn. differing in the .omega.6-to-.omega.3 polyunsatd. fatty acid ratios (45, 180, 0.06, 1.00, and 0.05, resp.), the level of blood plasma cholesterol was 52.6, 48.9, 48.3, 43.2, and 42.9 mg/100 mL, resp. The corresponding data for liver total cholesterol were 0.33, 0.35, 0.40, 0.47, and 0.33%, with liver cholesterol esters comprising 78.8, 82.9, 75.9, 85.3, and 77.2% of total cholesterol, resp. Sunflower oil increased the level of .omega.6 fatty acids in liver cholesterol esters (from 31.2 to 49.7% of the total .omega.3 fatty acids). Ivasi oil and eicosapentaenoic acid increased the level of .omega.3 fatty acids in liver cholesterol esters and decreased their .omega.6/.omega.3 ratio.

IT **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, esters
RL: BIOL (Biological study)
(of blood plasma and liver, dietary .omega.-3 and .omega.-6 polyunsatd. fatty acids effect on)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

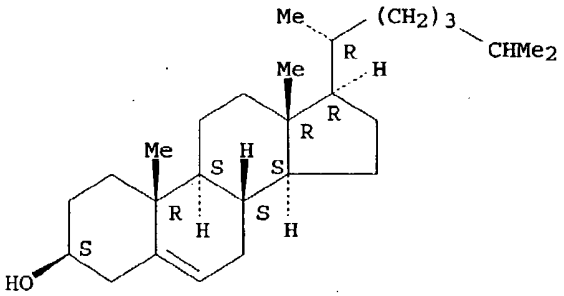
Absolute stereochemistry.



RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

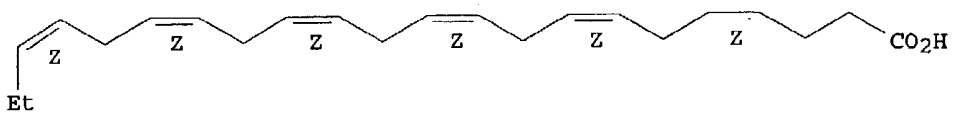


IT **6217-54-5 10417-94-4**
RL: BIOL (Biological study)
(of cholesterol esters, of liver, dietary .omega.-3 and .omega.-6 polyunsatd. fatty acids effect on)

RN 6217-54-5 HCAPLUS

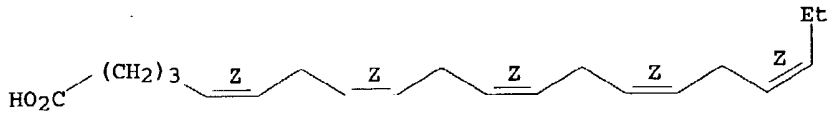
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



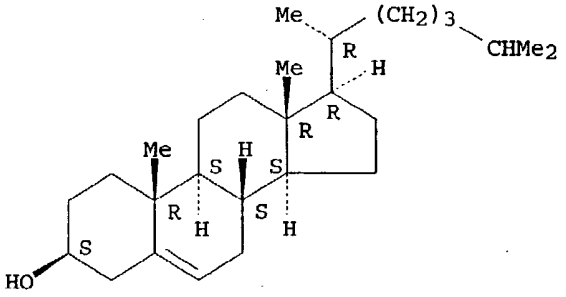
L39 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:113565 HCAPLUS
DOCUMENT NUMBER: 110:113565
TITLE: The reactivity of plasma phospholipids with lecithin:cholesterol acyltransferase is decreased in fish oil-fed monkeys
AUTHOR(S): Parks, John S.; Bullock, Bill C.; Rudel, Lawrence L.
CORPORATE SOURCE: Bowman Gray Sch. Med., Wake Forest Univ., Winston-Salem, NC, 27103, USA
SOURCE: Journal of Biological Chemistry (1989), 264(5), 2545-51
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The size of low-d. lipoproteins (LDI) is strongly correlated with LDL cholesteryl ester (CE) content and coronary artery atherosclerosis in monkeys fed cholesterol and satd. fat. African green monkeys fed 11% (wt.) fish oil diets have smaller LDL and less CE per LDL particle than did lard-fed animals. This might be due to a lower plasma lecithin:cholesterol acyltransferase (LCAT) activity in fish oil-fed animals. By using recombinant particles made of egg yolk lecithin-[14C]cholesterol-apolipoprotein A-I as the exogenous substrate, no difference was found in the plasma LCAT activity (27 vs. 28 nmol CE formed/h/mL) of fish oil- vs. lard-fed animals, resp.; furthermore, no diet-induced difference in immunodetectable LCAT was found. However, plasma phospholipids from fish oil-fed animals were >4-fold enriched in n-3 fatty acids in the sn-2 position compared to those of lard-fed animals. Addnl., the proportion of n-3 fatty acid-contg. CE products formed by LCAT, relative to the available n-3 fatty acid in the sn-2 position of phospholipids, was <1/10 of that for linoleic acid. The overall rate of LCAT-catalyzed CE formation with phospholipid substrates from fish oil-fed animals was lower (5-50%) than with phospholipid substrates from lard-fed animals. Thus, n-3 fatty acids in phospholipids are not readily utilized by LCAT for formation of CE; rather, LCAT preferentially utilizes linoleic acid for CE formation. The amt. of

linoleic acid in the sn-2 position of plasma phospholipids is reduced and replaced with n-3 fatty acids in fish oil-fed animals. As a result, LCAT-catalyzed plasma CE formation in vivo is likely reduced in fish oil-fed animals, contributing to the decreased cholesteryl ester content and smaller size of LDL particles in the animals of this diet group.

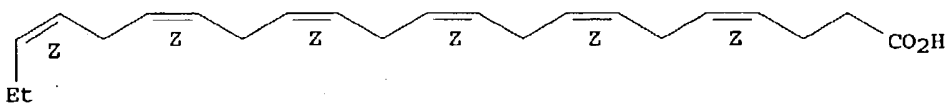
IT **57-88-5D**, Cholesterol, esters
RL: BIOL (Biological study)
(of low-d. lipoproteins, of blood plasma, dietary fish oil effect on)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



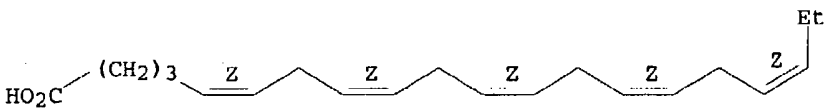
IT **6217-54-5 10417-94-4**
RL: BIOL (Biological study)
(of phospholipids, of blood plasma, dietary fish oil effect on)
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L39 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:54829 HCAPLUS
DOCUMENT NUMBER: 108:54829
TITLE: Response of plasma and liver cholesterol and fatty acids in hypercholesterolemic rats to short-term

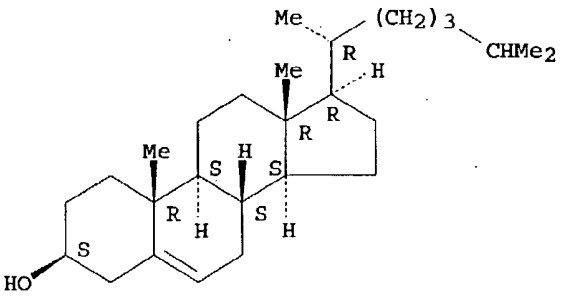
feeding of vegetable and fish oils
AUTHOR(S): Huang, Yung Sheng; McAdoo, Kelly R.; Horrobin, David F.
CORPORATE SOURCE: Efamol Res. Inst., Kentville, NS, B4N 4H8, Can.
SOURCE: Nutrition Reports International (1987), 36(6), 1171-83
CODEN: NURIBL; ISSN: 0029-6635
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The changes of plasma and liver cholesterol contents and fatty acid compns. in hypercholesterolemic rats in response to 4-day feeding of either n-6 fatty acid-rich safflower oil or n-3 fatty acid-rich fish oil were examd. Results show that both dietary fats were equally effective in lowering plasma and liver cholesterol. In plasma and liver phospholipids, the n-6 acids in safflower oil-fed rats, and the n-3 acids in fish oil-fed rats were metabolized in a similar pattern: they rose rapidly on the first day of feeding, and increased less rapidly thereafter. The n-3 and n-6 polyunsatd. fatty acids in plasma cholesteryl esters were metabolized differently. In animals fed safflower oil, the proportions of 18:2n-6 were elevated rapidly after one day on the diet, and remained const. thereafter, while the levels of 20:4n-6 increased after the second day. In animals fed fish oil, the levels of 20:5n-3 increased steadily throughout the feeding, while those of 22:6n-3 increased only marginally. The implications of these results for the mechanism of the hypocholesterolemic effects of n-3 and n-6 fatty acids are discussed.

IT **57-88-5**, Cholesterol, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metab. of, in hypercholesterolemia, dietary vegetable and fish oils effect on)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

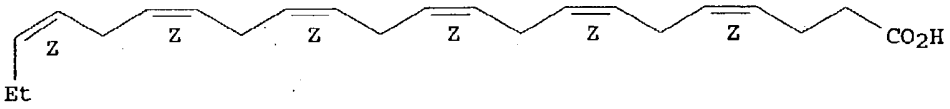
Absolute stereochemistry.



IT **6217-54-5 10417-94-4**
RL: BIOL (Biological study)
(of cholesteryl esters phospholipids of blood plasma and liver, in hypercholesterolemia, dietary safflower and fish oils effect on)

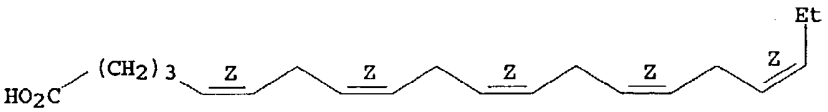
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

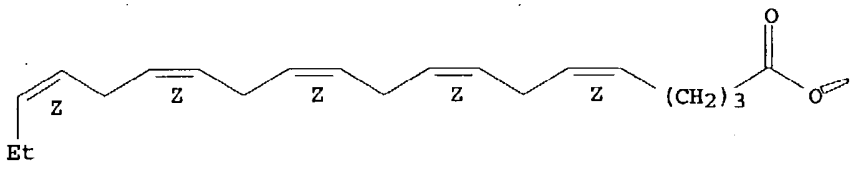
Double bond geometry as shown.



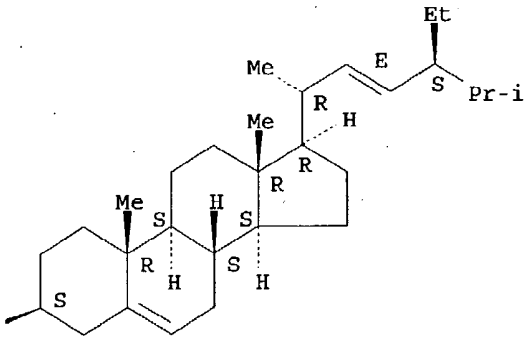
L39 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:224078 HCAPLUS
DOCUMENT NUMBER: 104:224078
TITLE: Effect of linolenic and eicosapentaenoic acids on prostaglandin biosynthesis and platelet function in man
AUTHOR(S): Adam, O.; Wolfram, G.; Zoellner, N.
CORPORATE SOURCE: Med. Poliklin., Univ. Munich, Munich, Fed. Rep. Ger.
SOURCE: Klinische Wochenschrift (1986), 64(6), 274-6
CODEN: KLWOAZ; ISSN: 0023-2173
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Platelet aggregation, bleeding time, prostaglandin biosynthesis, and plasma cholesterol fatty acids were investigated in healthy females who were given different amts. of linolenic acid (I) [463-40-1] (0, 4, 8, 12, 16% of the total energy intake) or eicosapentaenoic acid (II) [**10417-94-4**] (1.7%) with formula diets for 2 wk each. I and II prolonged the bleeding time and inhibited platelet aggregation and prostaglandin biosynthesis. These effects became apparent with a I intake of 12% of the energy intake. A decrease in prostaglandins E in the 24-h urine was obsd. after intake of I amounting to 8% of the energy intake. II influenced all the parameters measured 10-fold more than I. I intake had no effect on the ratio of I to arachidonic acids in plasma cholesterol esters, in contrast to in vitro findings. Thus, intake of 1.7% of the energy as II acid is sufficient to affect thrombocyte function in man. The concomitant intake of I-type fatty acids inhibits the biosynthesis of prostaglandins E2 [363-24-6] and F2.alpha. [551-11-1] to different degrees.
IT **57-88-5D**, fatty acid esters
RL: BIOL (Biological study)
(of blood plasma, of humans, dietary linolenic and eicosapentaenoic acids effect on)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:416035 HCAPLUS
DOCUMENT NUMBER: 131:243460
TITLE: Enzymatic synthesis of steryl esters of polyunsaturated fatty acids
AUTHOR(S): Shimada, Yuji; Hirota, Yoshinori; Baba, Takashi; Sugihara, Akio; Moriyama, Shigeru; Tominaga, Yoshio; Terai, Tadamasa
CORPORATE SOURCE: Osaka Municipal Technical Research Institute, Osaka, 536-8553, Japan
SOURCE: Journal of the American Oil Chemists' Society (1999), 76(6), 713-716
CODEN: JAOCA7; ISSN: 0003-021X
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:243460
AB Steryl esters of long-chain fatty acids have water-holding properties, and

polyunsatd. fatty acids (PUFA) have various physiol. functions. Because steryl ester of PUFA can be expected to have both features, we attempted to synthesize steryl esters of PUFA by enzymic methods. Among lipases used, Pseudomonas lipase was the most effective for the synthesis of cholesteryl docosahexaenoate. When a mixt. of cholesterol/docosahexaenoic acid (3:1, mol/mol), 30% water, and 3000 units/g of lipase was stirred at 40.degree.C for 24 h, the esterification extent attained 89.5%. Under the same reaction conditions, cholesterol, cholestanol, and sitosterol were also esterified efficiently with docosahexaenoic, eicosapentaenoic, arachidonic, and .gamma.-linolenic acids.

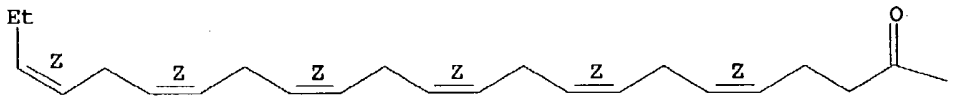
IT **70110-50-8P**, Cholesteryl all-(Z)-4,7,10,13,16,19-docosahexaenoate **74892-97-0P 244258-45-5P**, Cholestanyl all-(Z)-4,7,10,13,16,19-docosahexaenoate **244258-47-7P**, Cholestanyl all-(Z)-eicosapentaenoate **244258-49-9P**, Sitosteryl all-(Z)-4,7,10,13,16,19-docosahexaenoate **244258-50-2P**, Sitosteryl all-(Z)-eicosapentaenoate
RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(enzymic synthesis of steryl esters of polyunsatd. fatty acids with Pseudomonas lipases)

RN 70110-50-8 HCAPLUS

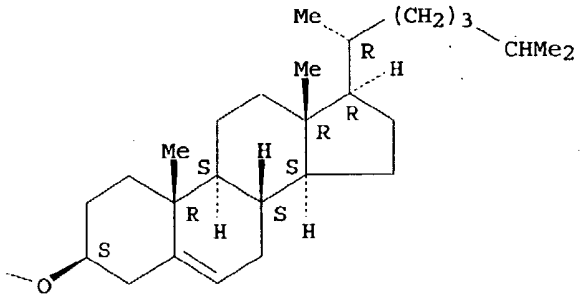
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



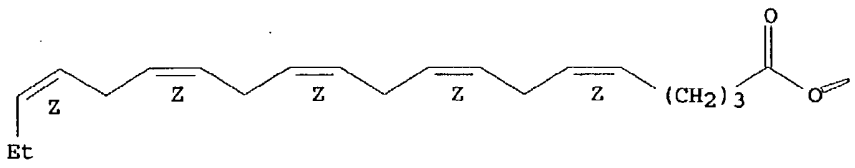
PAGE 1-B



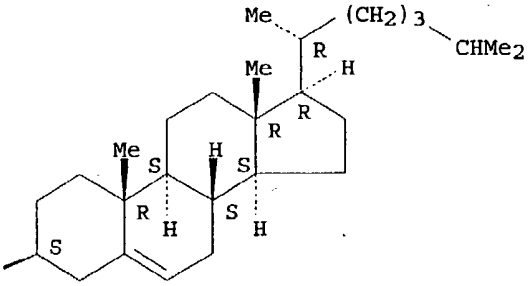
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



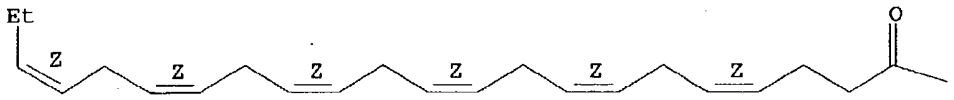
PAGE 1-B



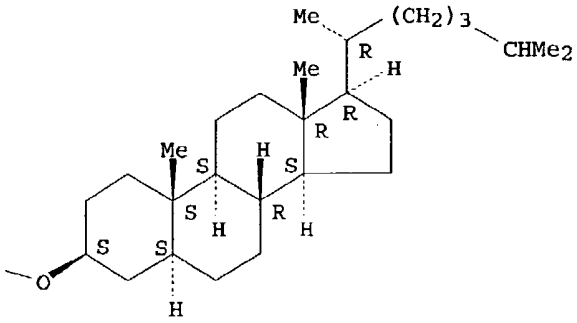
RN 244258-45-5 HCAPLUS
CN Cholestan-3-ol, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate, (3.beta.,5.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



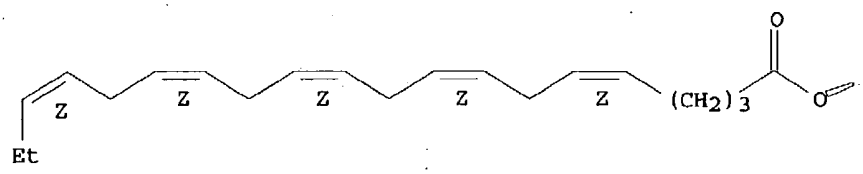
PAGE 1-B



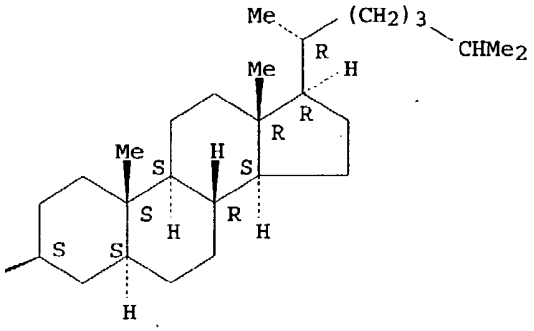
RN 244258-47-7 HCAPLUS
CN Cholestan-3-ol, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate, (3.beta.,5.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



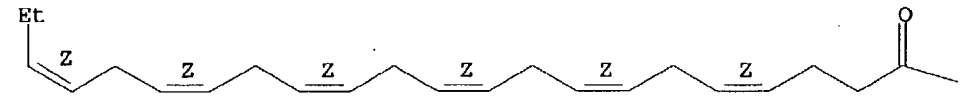
PAGE 1-B



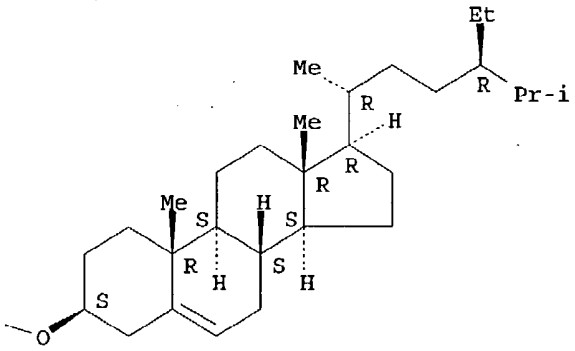
RN 244258-49-9 HCAPLUS
CN Stigmast-5-en-3-ol, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



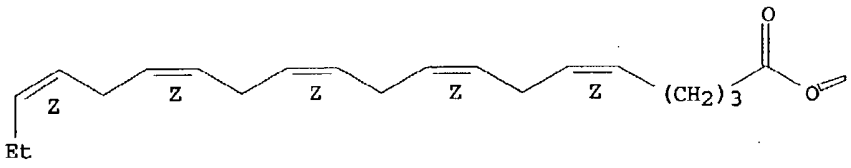
PAGE 1-B



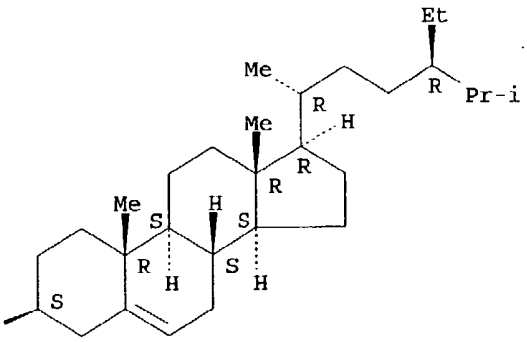
RN 244258-50-2 HCAPLUS
CN Stigmast-5-en-3-ol, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:593003 HCAPLUS
DOCUMENT NUMBER: 129:311064
TITLE: Effects of prolonged ACTH-stimulation on adrenocortical cholesterol reserve and apolipoprotein E concentration in young and aged Fischer 344 male rats
AUTHOR(S): Cheng, Behling; Chou, Shui-Chou; Abraham, Susamma; Kowal, Jerome
CORPORATE SOURCE: Department of Medicine, School of Medicine and Veterans Affairs Medical Center, Case Western Reserve

University, Cleveland, OH, 44106, USA
SOURCE: Journal of Steroid Biochemistry and Molecular Biology (1998), 66(5-6), 335-345
CODEN: JSBBEZ; ISSN: 0960-0760
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Changes in the morphol. of rat adrenal cortex with age include accumulations of lipid droplets and lipofuscin granules. Because glandular concns. of cholesteryl esters (CE) and apolipoprotein (apo) E are also increased in parallel, the utilization or metab. of lipid-droplet stored CE for steroidogenesis might be altered in aging cells. To explore this possibility, adrenocortical cholesterol storage and utilization were studied in 3-6 mo-old (Y) rats and 20-23 mo-old (O) Fischer 344 male rats. Both groups received either ACTH (ACTH-1-39, Acthar gel) or gelatin alone daily for seven consecutive days. The authors found that the CE concn. in O rats, but not Y animals, was diminished by ACTH. The depleted CE in stimulated O rats was replenished within five days post stimulation. Failure to deplete CE in stimulated Y rats was not assocd. with an insufficient dose of the hormone, since stimulation of Y animals with higher doses of ACTH actually increased the CE concn. In contrast, adrenocortical free cholesterol concn. remained const. during stimulation regardless of age. The depleted CE in stimulated O rats was principally comprised of cholesteryl adrenate, cholesteryl arachidonate and cholesteryl cervonate. The accumulated CE in stimulated Y animals was primarily comprised of cholesteryl adrenate, cholesteryl arachidonate and cholesteryl oleate. Whereas in stimulated Y rats adrenal apoE concn. declined, the concn. in stimulated O animals was well maintained. In vitro, adrenal homogenate or cytosolic fraction from stimulated O rats displayed a higher capacity to hydrolyze exogenous CE than its Y counterpart. However, cholesterol esterification with external fatty acid substrates in adrenal homogenate or microsomal fraction was comparable in the two age groups. The authors' findings revealed altered adrenocortical cholesterol reserve in O rats to cope with prolonged ACTH stimulation. Changes in apoE levels and CE hydrolysis activity may be factors assocd. with this alteration. Depletion and accumulation of adrenocortical CE are reflected in parallel changes in cholesteryl adrenate and cholesteryl arachidonate, suggesting physiol. importance of these polyunsatd. fatty acids during sustained steroidogenesis.

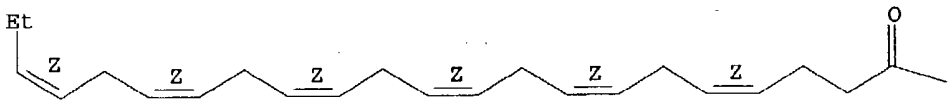
IT **70110-50-8**, Cholesteryl cervonate
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence)
(ACTH stimulation effect on adrenal cortex cholesterol reserve and apolipoprotein E concn. in young and aged male rats)

RN 70110-50-8 HCAPLUS

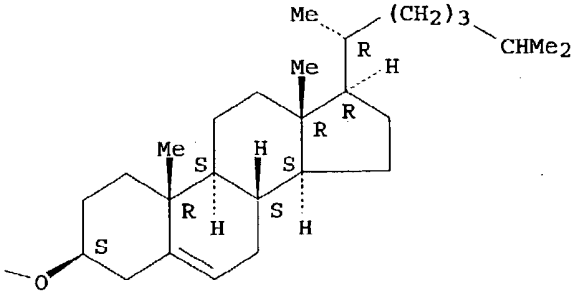
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:588498 HCAPLUS
DOCUMENT NUMBER: 129:288109
TITLE: Sexual dimorphism in the fatty acyl composition of rat adrenal lipids
AUTHOR(S): Ruiz, J. I.; Ruiz-Larrea, M. B.
CORPORATE SOURCE: Department of Pediatrics, Laboratory of Infant Metabolism, Cruces Hospital, Barakaldo, 48903, Spain
SOURCE: Biochemical Society Transactions (1998), 26(3), S218
CODEN: BCSTB5; ISSN: 0300-5127
PUBLISHER: Portland Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

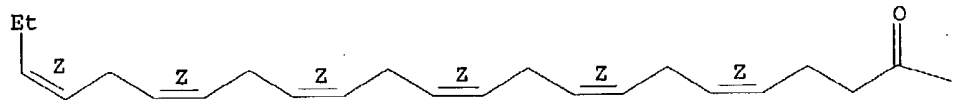
AB The authors report the fatty acid profile of cholesterol esters, triglycerides, and phospholipids from male and female rat adrenal glands. Cholesteryl adrenate is stored as the main sterol ester in the adrenal gland, and was almost 2-fold higher in female than in male glands. C22:4n-6 was the major fatty acid found in the adrenal triglycerides and phospholipids, with an even higher difference (.apprx.3-fold) between males and females when compared to the cholesterol ester fraction.

IT **70110-50-8**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(sexual dimorphism in fatty acyl compn. of rat adrenal lipids)

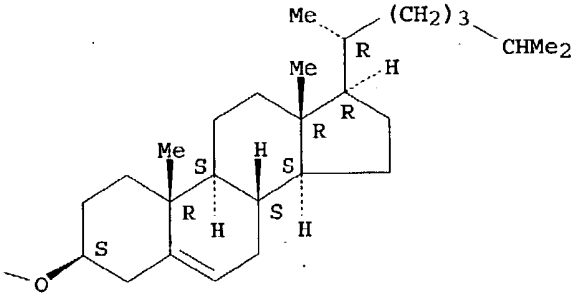
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:398767 HCAPLUS
DOCUMENT NUMBER: 129:67239
TITLE: Olive oil supplementation in health adults. Effects in cell membrane fatty acid composition and platelet function
AUTHOR(S): Vicario, Isabel M.; Malkova, Dala; Lund, Elizabeth K.; Johnson, Ian T.
CORPORATE SOURCE: Norwich Lab., Inst. Food Res., Norwich, UK
SOURCE: Annals of Nutrition & Metabolism (1998), 42(3), 160-169
CODEN: ANUMDS; ISSN: 0250-6807
PUBLISHER: S. Karger AG
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Healthy were given a daily supplement of 30 g olive oil for 6 wk to evaluate how it would affect cell membrane compn. and ultimately platelet

function. Fasting blood and cheek cell samples were taken before commencing the study, after 21 and 42 days of supplementation and also at 30 days after finishing the supplement (washout). C18:1n-9 was significantly increased in platelet and cheek cell phospholipids. Erythrocytes were not good markers for C18:1n-9 intake and no change was found in this tissue. There was a small nonsignificant decrease in platelet phospholipid 20:4n-6 after the supplementation. C18:1n-9 did not persist in platelet membranes after the volunteers stopped consuming the olive oil supplement, but in erythrocytes an increase was found after the washout period. None of these changes in fatty acid compn. in the different tissues were related to changes in blood serum cholesterol-related variables or in clotting factors or ADP-induced platelet aggregation.

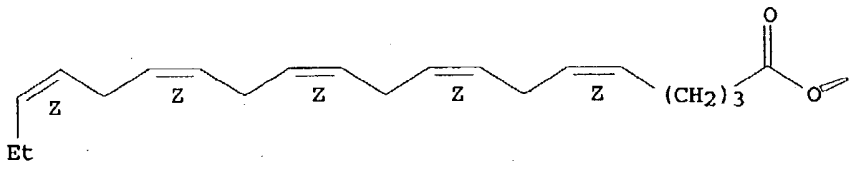
IT **74892-97-0**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(olive oil supplementation effects on cell membrane fatty acid compn. and platelet function)

RN 74892-97-0 HCAPLUS

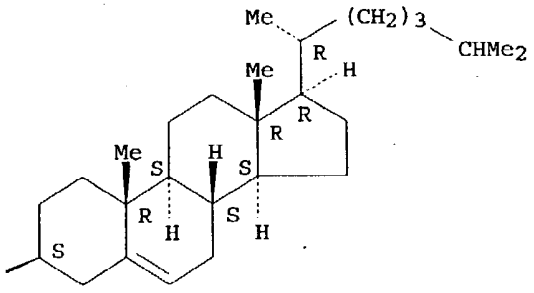
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:233936 HCAPLUS
DOCUMENT NUMBER: 129:3548
TITLE: High density lipoprotein fatty acids in dementia
AUTHOR(S): Corrigan, F. M.; Mowat, B.; Skinner, E. R.; Van Rhijn, A. G.; Cousland, G.
CORPORATE SOURCE: Argyll and Bute NHS Trust, Argyll and Bute Hospital, Argyll, PA31 8LD, UK
SOURCE: Prostaglandins, Leukotrienes and Essential Fatty Acids (1998), 58(2), 125-127
CODEN: PLEAEU; ISSN: 0952-3278
PUBLISHER: Churchill Livingstone
DOCUMENT TYPE: Journal
LANGUAGE: English

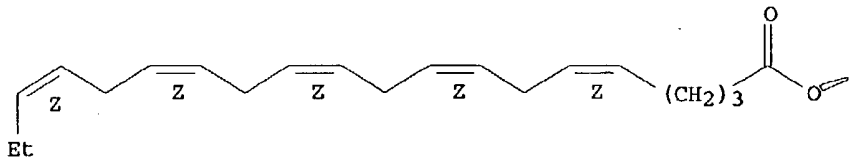
AB High d. lipoproteins (HDL) are small plasma particles which may be able to pass through the blood-brain barrier. The authors have therefore studied the fatty acids of HDL in patients with dementia to det. whether the changes are consistent with those previously reported in brain tissue. The HDL phospholipid and the HDL cholesteryl ester both showed reduced concns. of arachidonic acid (20:4n6) as compared to normal controls. HDL may be a useful plasma fraction for study of lipids in neurodegenerative diseases.

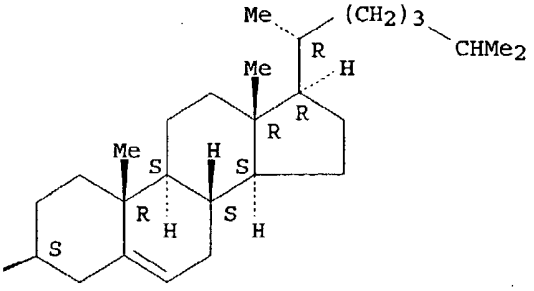
IT **74892-97-0**, Cholesteryl 5,8,11,14,17-eicosapentaenoate
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(high d. lipoprotein fatty acids in human dementia)

RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A





REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

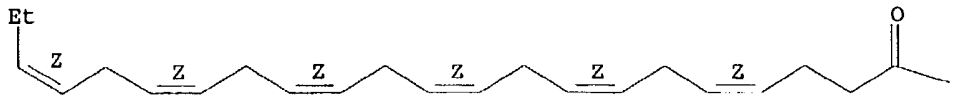
L9 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:371585 HCAPLUS
DOCUMENT NUMBER: 127:33318
TITLE: Cholesterol fatty esters for promotion growth of shrimp
INVENTOR(S): Matsufune, Yoichi; Nakajima, Jun; Tejima, Shinichi
PATENT ASSIGNEE(S): Nippon Shoe Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09084527	A2	19970331	JP 1995-244123	19950922

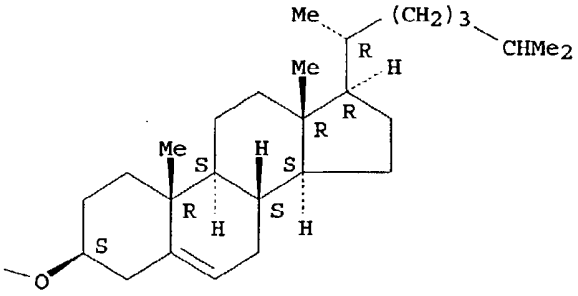
PRIORITY APPLN. INFO.: JP 1995-244123 19950922
OTHER SOURCE(S): MARPAT 127:33318
AB Cholesterol fatty esters (I) contg. (un)branched C8-22 (un)satd. fatty acid are used for manufg. feed for shrimp for promotion of growth. Manuf. of I from soybean fatty acid and eicosapentaenoic and docosahexaenoic acid was shown. Also shown was the promotion of growth of shrimp with I-contg. feed.
IT **70110-50-8P 74892-97-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(cholesterol fatty esters for promotion growth of shrimp)
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



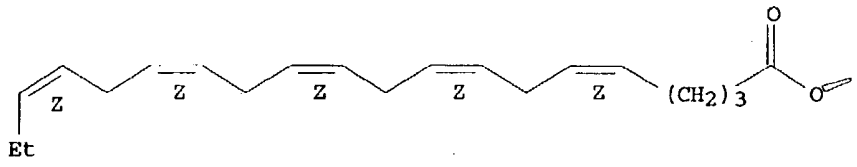
PAGE 1-B



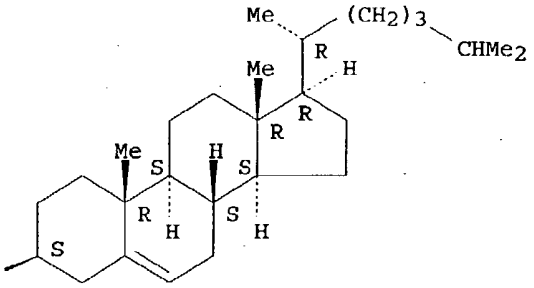
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



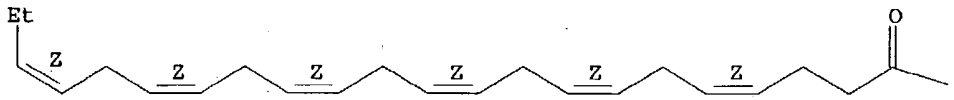
L9 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:343579 HCAPLUS
DOCUMENT NUMBER: 127:80676
TITLE: Toxicity of polyunsaturated fatty acid esters for human monocyte-macrophages: the anomalous behavior of cholesteryl linolenate
AUTHOR(S): Hardwick, Simon J.; Carpenter, Keri L. H.; Law, Nadine S.; van der Veen, Carina; Marchant, Christine E.; Hird, Rachel; Mitchinson, Malcolm J.
CORPORATE SOURCE: Dep. Pathol., Univ. Cambridge, Cambridge, CB2 1QP, UK
SOURCE: Free Radical Research (1997), 26(4), 351-362
CODEN: FRARER; ISSN: 1071-5762
PUBLISHER: Harwood
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The toxicity to human monocyte-macrophages and susceptibility to oxidn. of different individual dietary fatty acids in cholesterol esters and triglycerides added to cell cultures as coacervates with bovine serum albumin was investigated. Toxicity was assessed using release of radioactivity from cells preloaded with tritiated adenine. Lipid oxidn. was measured by gas chromatog. The triglycerides showed a direct relation between toxicity and increasing unsatn., which in turn correlated with increasing susceptibility to oxidn. Triolein (18:1; .omega.-3) was toxic only after prolonged incubation. Triarachidonin (20:4; .omega.-6), trieicosapentaenoin (20:5; .omega.-3), and tridocosahexaenoin (22:6; .omega.-3) were profoundly and rapidly toxic. There was a similar relation between toxicity and increasing unsatn. for most of the cholesterol esters, but cholesteryl linolenate was apparently anomalous, being non-toxic in spite of possessing 3 double bonds and being extensively oxidized. Probucol and DL-.alpha.-tocopherol conferred protection against the toxicity of cholesteryl arachidonate and triarachidonin. The oxidn. in these expts. was largely independent of the presence of cells. GC indicated that formation of 7-oxysterols might contribute to the toxicity of cholesteryl linoleate. The toxicity of triglycerides suggests that polyunsatd. fatty acid peroxidn. products are also toxic. Possible mechanisms of cytotoxicity and relevance to atherosclerosis are discussed.

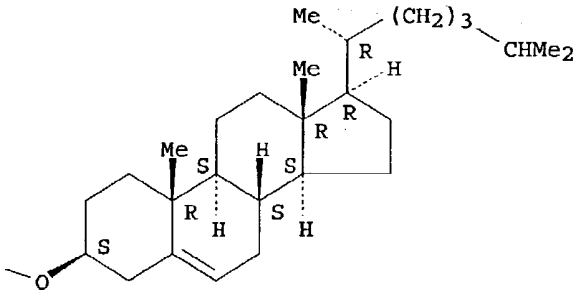
IT **70110-50-8 74892-97-0**, Cholesteryl eicosapentaenoate
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(toxicity of polyunsatd. fatty acid esters for human monocyte-macrophages)
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



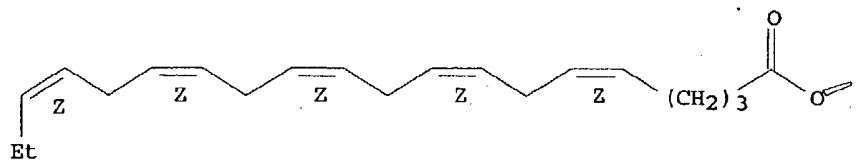
PAGE 1-B



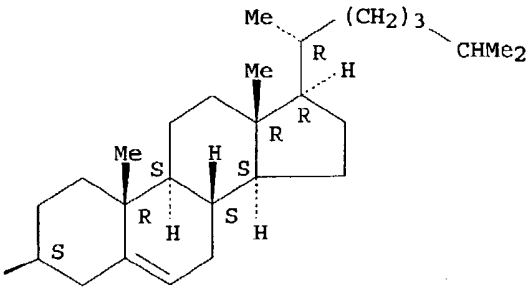
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



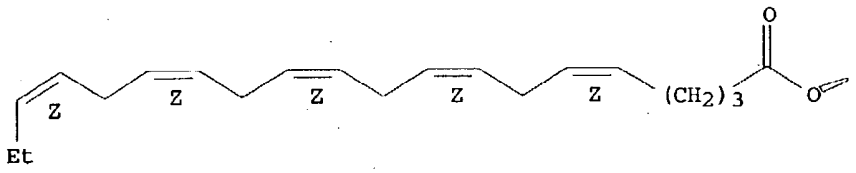
L9 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:225525 HCAPLUS
DOCUMENT NUMBER: 126:315798
TITLE: Several mechanisms contribute to the abnormal fatty acid composition of serum phospholipids and cholesterol esters in cholestatic children with extrahepatic biliary atresia
AUTHOR(S): Robberecht, E.; Koletzko, B.; Christophe, A.
CORPORATE SOURCE: Dep. Pediatrics, Univ. Hospital, Ghent, Belg.
SOURCE: Prostaglandins, Leukotrienes and Essential Fatty Acids (1997), 56(3), 199-204
CODEN: PLEAEU; ISSN: 0952-3278
PUBLISHER: Churchill Livingstone
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fatty acid compns. of serum phospholipids and cholesterol esters and direct bilirubinemia were detd. in 11 children with cholestasis due to extrahepatic biliary atresia. The levels of the different fatty acids in these lipid classes were compared with those of 22 appropriate controls and correlations with conjugated bilirubinemia were calcd. Significant differences were found in the levels of several fatty acids in these lipid classes, some of which were related to conjugated bilirubinemia. Relationships between fatty acids in phospholipids and cholesterol esters which exist in the control group were wither absent or different in the patient group. The results found are compatible with the concept that malabsorption, overflow in blood of phospholipids, which are excreted in bile in healthy individuals, and liver disease per se contribute to the deviating fatty acid compns. They suggest that administration in the diet may be required of preformed long chain polyunsatd. fatty acids in an easily absorbable form.

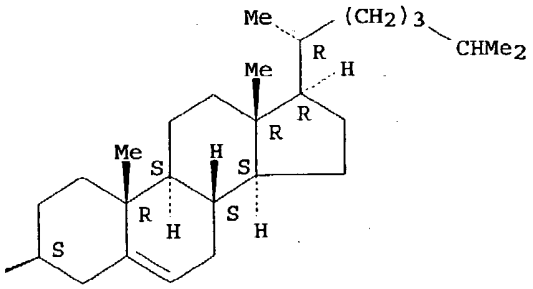
IT **74892-97-0**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(fatty acid compn. of serum phospholipids and cholesterol esters in cholestatic children with extrahepatic biliary atresia)
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:326457 HCAPLUS
DOCUMENT NUMBER: 122:96713
TITLE: A comparison of the esterification of steroids by rat lecithin:cholesterol acyltransferase and acyl coenzyme A:cholesterol acyltransferase
AUTHOR(S): Pahuja, Sham I.; Hochberg, Richard B.
CORPORATE SOURCE: Department Obstetrics Gynecology, Yale University, New Haven, CT, 06510, USA
SOURCE: Endocrinology (1995), 136(1), 180-6
CODEN: ENDOAO; ISSN: 0013-7227
PUBLISHER: Endocrine Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Although fatty acid esters of several steroids have been found in both blood and tissues, their biosynthetic origins are uncertain. For example, the fatty acid esters of .DELTA.6-3.beta.-hydroxysteroids pregnenolone and dehydroepiandrosterone (DHEA) are synthesized in tissues by an acyl CoA:acyltransferase. These esters are not secreted, and the circulating esters are formed in blood by lecithin:cholesterol acyltransferase (LCAT). Fatty acid esters of corticosterone (B) and estradiol (E2) are also present in both blood and tissues, but unlike the .DELTA.5-3.beta.-hydroxysteroids, their structures are so different from cholesterol that

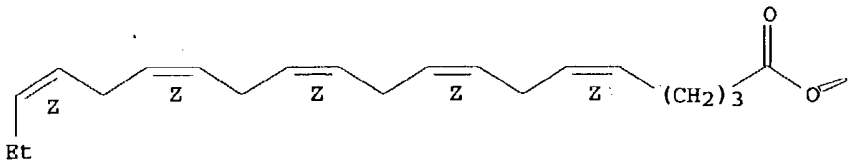
it would not necessarily follow that they are esterified by the same enzyme. We have examd. the esterification of the steroids DHEA, B, and E2 in blood and tissue, in comparison to the esterification of cholesterol, using as a model plasma and hepatic microsomes from the rat. All of the steroids were esterified in plasma, but at very different rates: cholesterol > DHEA >> E2 = B. The LCAT inhibitor, 5,5'-dithiobis-(2-nitrobenzoic acid), inhibited the esterification of all of the substrates. DHEA inhibited the esterification of cholesterol, albeit only at high concn. The fatty acid compns. of the cholesterol and DHEA esters were analyzed, and they were found to be identical, with arachidonate the predominant ester, greater than 60%. In hepatic microsomes, the rate of esterification was different than plasma: cholesterol > E2 .gtoreq. DHEA .mchgt. B. Although B was esterified in both plasma and hepatic microsomes, the rate was exceedingly slow in both. The acyl CoA:cholesterol acyltransferase inhibitor, N'-(2,4-difluorophenyl)-N-[[4-(2,2-dimethylpropyl)phenyl]methyl]-N-heptylurea, blocked the esterification of cholesterol almost completely, but surprisingly, it had no effect on the esterification of the other steroids. The fatty acid esters of cholesterol, E2, and DHEA synthesized in the hepatic microsomes were analyzed. The compn. of the cholesterol esters from the microsomes was very different than the esters of DHEA and E2. These results show that all of the steroids tested are esterified by LCAT, and consequently that blood LCAT is the probable source of the circulating steroidal esters. Most interesting are the studies of microsomal esterification. It has been presumed that similar to blood, the esterification of steroids in tissues is carried out by the same enzyme that esterifies cholesterol. However, the specificity of the acyl CoA:cholesterol acyltransferase inhibitor and the difference in the fatty acid compn. of the esters of cholesterol from the other steroids indicates that the enzyme that esterifies cholesterol in tissue is different from the one(s) that esterifies the other steroids. The presence of an enzyme system(s) that esterifies the steroids, distinct from the one that esterifies cholesterol, emphasizes that the esterification of steroids is not merely fortuitous, and it is a further indication that the formation of steroidal fatty acid esters serves important biol. functions.

IT **74892-97-0 135498-32-7**
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(steroid esterification by lecithin:cholesterol acyltransferase and acyl CoA:cholesterol acyltransferase of blood plasma and liver microsome)

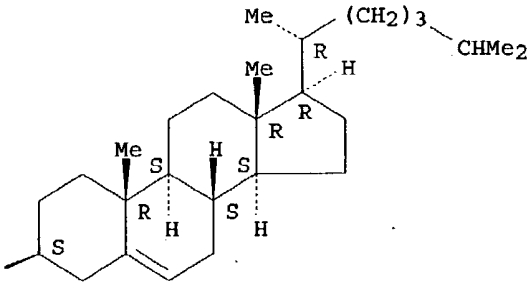
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

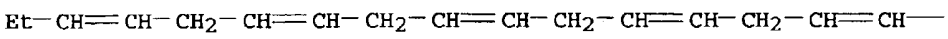


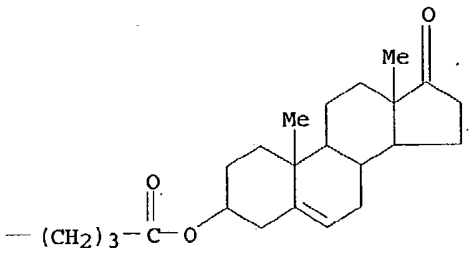
PAGE 1-B



RN 135498-32-7 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxo-5,8,11,14,17-eicosapentaenyl)oxy]-, [3.beta.(5Z,8Z,11Z,14Z,17Z)]- (9CI) (CA INDEX NAME)

PAGE 1-A





L9 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:587306 HCAPLUS
DOCUMENT NUMBER: 121:187306
TITLE: Cholesteryl esters of unsaturated fatty acids for use in pharmaceutical and nutritional composition
INVENTOR(S): Horrobin, David Frederick
PATENT ASSIGNEE(S): Scotia Holdings PLC, UK
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 606012	A1	19940713	EP 1993-310599	19931229
EP 606012	B1	19980715		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AT 168267	E	19980815	AT 1993-310599	19931229
ES 2119871	T3	19981016	ES 1993-310599	19931229
AU 9352763	A1	19940714	AU 1993-52763	19931230
AU 673555	B2	19961114		
ZA 9400025	A	19940819	ZA 1994-25	19940104
CA 2112824	AA	19940707	CA 1994-2112824	19940105
NO 9400035	A	19940707	NO 1994-35	19940105
RU 2142468	C1	19991210	RU 1994-61	19940105
JP 06234644	A2	19940823	JP 1994-338	19940106
CN 1096197	A	19941214	CN 1994-100242	19940106
US 5604216	A	19970218	US 1994-178553	19940106

PRIORITY APPLN. INFO.: GB 1993-125 A 19930106

AB Cholesterol fatty acid esters, where the fatty acid is chosen from an essential fatty acid, parinaric acid, and columbinic acid may be used in therapy, esp. in the treatment of cancer and cardiovascular disease. For example, cholesteryl (z,z,z)-octadeca-6,9,12-trienoate was prepd. Formulations contg. cholesterol .gamma.-linolenic acid ester are also described.

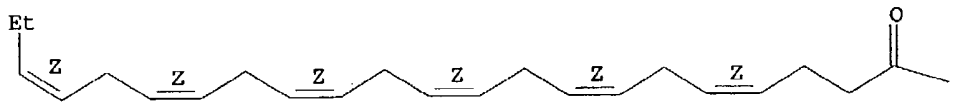
IT **70110-50-8P 74892-97-0P**
RL: PREP (Preparation)
(prepn. of, as therapeutic agent and nutritional supplement)

RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

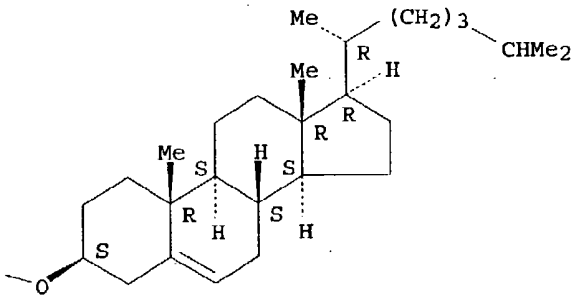
Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



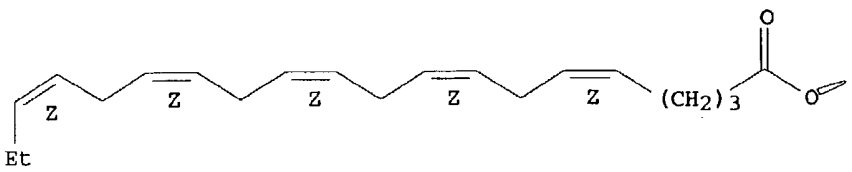
PAGE 1-B



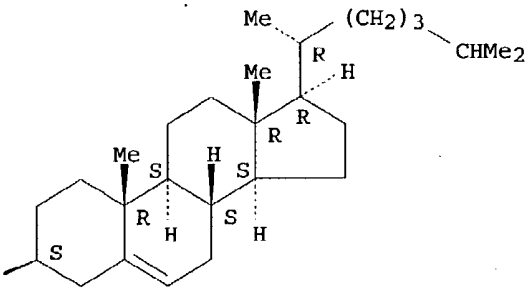
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



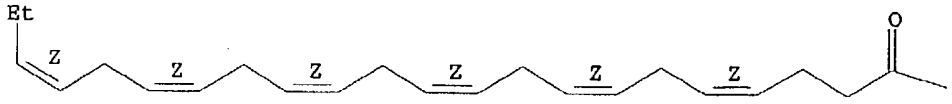
L9 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:477552 HCAPLUS
DOCUMENT NUMBER: 121:77552
TITLE: Analysis of adrenal cholesteryl esters by reversed phase high performance liquid chromatography
AUTHOR(S): Cheng, Behling; Kowal, Jerome
CORPORATE SOURCE: Sch. Med., Case Western Reserve Univ., Cleveland, OH, 44106, USA
SOURCE: Journal of Lipid Research (1994), 35(6), 1115-21
CODEN: JLPRAW; ISSN: 0022-2275
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A reversed phase high performance liq. chromatog. (HPLC) method was developed for direct profiling and detn. of adrenal cholesteryl ester compn. Cholesteryl adrenate and cholesteryl cervonate, which are not com. available, were synthesized as markers. Lipid exts. of rat adrenal homogenates or lipid droplets were individually applied to a conditioned silica gel-60 column which sepd. cholesteryl esters from other native lipids. The eluted cholesteryl ester fraction was then analyzed by HPLC. With cholesteryl hepatodecanoate as internal std., seven adrenal cholesteryl esters were detected and quantified: cholesteryl cervonate, cholesteryl arachidonate, cholesteryl adrenate, cholesteryl myristate, cholesteryl oleate, cholesteryl palmitate, and cholesteryl stearate. Among them, cholesterol adrenate appeared to be the major sterol ester stored in the rat adrenal.

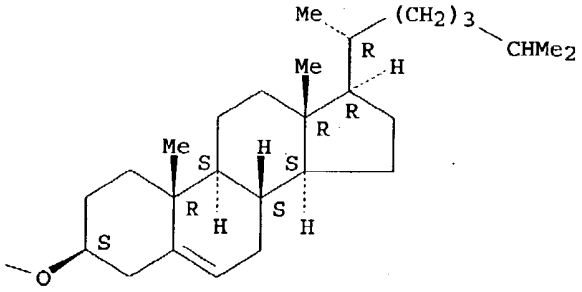
IT **70110-50-8**, Cholesteryl cervonate
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, of adrenal gland by reversed-phase HPLC)
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:103047 HCAPLUS
DOCUMENT NUMBER: 120:103047
TITLE: Investigation of the fatty acid compositions of serum cholesteryl esters in the populations of some districts and ethnic groups in China
AUTHOR(S): Chen, Wenxiang; Li, Jianzhai
CORPORATE SOURCE: Beijing Inst. Geriatr., Beijing, 100730, Peop. Rep. China
SOURCE: Yingyang Xuebao (1993), 15(3), 284-8
CODEN: YYHPA4; ISSN: 0512-7955
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

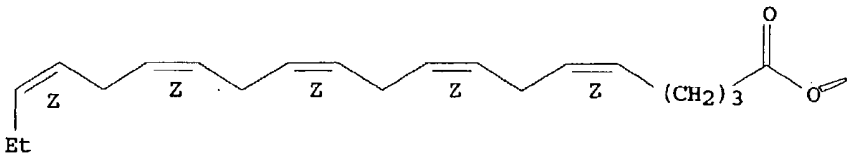
AB The fatty acid compns. of cholesteryl esters in men of 4 ethnic groups in 5 districts in China were analyzed. Fatty acid patterns of cholesteryl esters in different population groups were similar, though some variations were obsd. which seemed to be caused by the difference in diet. The correlations of serum cholesteryl ester fatty acids with the quality and quantity of dietary fat and with the serum lipid levels were discussed.

IT **74892-97-0**
RL: BIOL (Biological study)
(of blood serum, of Chinese men, dietary fat and genetics in relation to)

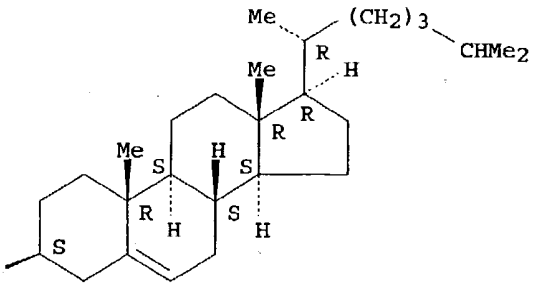
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:210494 HCAPLUS
DOCUMENT NUMBER: 116:210494
TITLE: Determination of fatty acid composition of serum cholesteryl esters by high performance liquid chromatography
AUTHOR(S): Chen, Wenxiang; Li, Jianzhai
CORPORATE SOURCE: Beijing Inst. Geriatr., Beijing, Peop. Rep. China
SOURCE: Shengwu Huaxue Yu Shengwu Wuli Xuebao (1991), 23(4), 318-24
CODEN: SHWPAU; ISSN: 0582-9879
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB An improved method for the detn. of fatty acid compn. of serum cholesteryl esters by HPLC was described. Serum was treated with isopropanol-0.75M NaOH; cholesteryl esters in the serum were then extd. into n-octane and chromatographed on a .mu.-Bondapak C18 column. The mobile phase was acetonitrile-isopropanol (4:1) satd. with n-hexane and the effluent was detected at 210 nm. Various serum cholesteryl esters together with cholesteryl pentadecanoate and heptadecanoate, which could be used as

internal stds., were well resolved within 1 h. Used in the detn. of the fatty acid compn. of serum cholesteryl esters, this method should be simpler and more accurate than the gas-liq. chromatog. method in which the fatty acid derivs. of cholesteryl esters were detd. The structure-retention relationship of cholesteryl esters was studied in detail. Cholesteryl eicosapentaenoate, which could be found in human and animal serum but for which no ref. material could be obtained, was identified and quantitated by mass spectrum and structure-retention anal. as well as cholesterol detn. The HPLC method has been successfully used in the investigation of the fatty acid compn. of cholesteryl esters in the sera of human and exptl. animals.

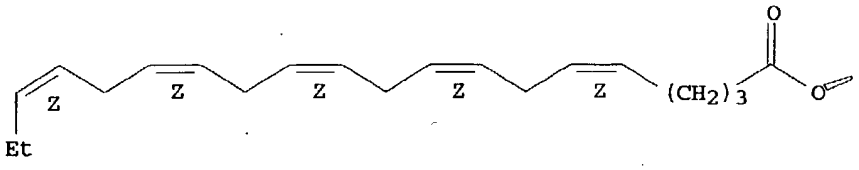
IT **74892-97-0**
RL: ANT (Analyte); ANST (Analytical study)
(sepn. of, by HPLC)

RN 74892-97-0 HCAPLUS

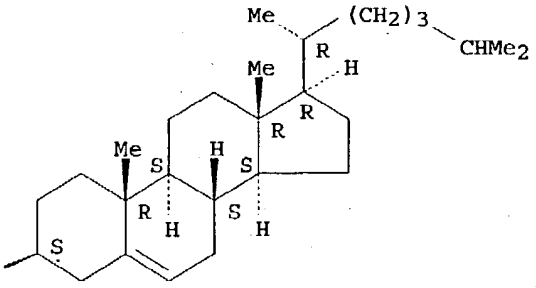
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:575028 HCAPLUS
DOCUMENT NUMBER: 115:175028

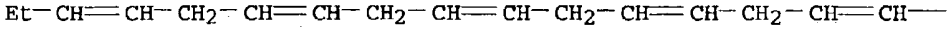
TITLE: Metabolic conversion of six steroid hormones by human plasma high-density lipoprotein
AUTHOR(S): Leszczynski, D. E.; Schafer, R. M.
CORPORATE SOURCE: Harlan E. Moore Heart Res. Found., Champaign, IL, USA
SOURCE: Biochimica et Biophysica Acta (1991), 1083(1), 18-28
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Sixteen different steroid hormones were individually tested in equil. dialysis against plasma high-d., low-d. and very-low-d. lipoproteins (HDL, LDL, VLDL) under physiol. conditions. Six steroid hormones [androstenediol (AEDOL), estradiol (E2), dehydroepiandrosterone (DHEA), dihydrotestosterone (DHT), pregnenolone (P5), and progesterone (P4)] demonstrated metabolic interaction with HDL, particularly HDL3. In 4 cases (AEDOL-HDL, E2-HDL, DHEA-HDL and P5-HDL) the interaction products were more lipophilic, while in the other 2 cases (DHT-HDL, P4-HDL) they were hydrophilic compared to the original steroid hormone substrates. The lipophilic products appeared to be long-chain fatty acid steroid hormone esters at the C-3 position of the steroid hormone. This was confirmed, in preparative incubations, for the 2 strongest steroid hormone reactants (DHEA and P5) by gas chromatog.-mass spectroscopy (GC-MS). Naturally occurring DHEA and P5 esters were identified in normal fresh human plasma by GC-MS, and their fatty acid compns. were similar to that of native HDL3 cholesterol esters. It was deduced that lecithin-cholesterol acyl transferase was responsible for the lipophilic type conversion activity with P5 > DHEA > AEDOL > E2. For DHT and P4, which exhibit a fundamentally different (hydrophilic) type of metabolic conversion, a totally different form of HDL-assocd. metabolic activity is indicated. These newly discovered steroid hormone-lipoprotein interactions may be important for steroid hormone processing in plasma and(or) steroid hormone delivery to cells.

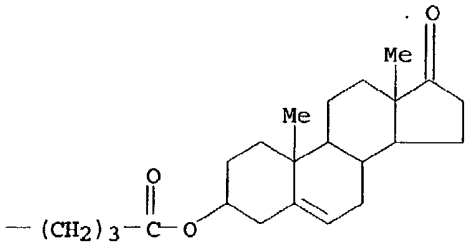
IT **135498-32-7 135498-33-8 135498-40-7**
135498-41-8
RL: FORM (Formation, nonpreparative)
(formation of, in blood plasma in high-d. lipoproteins interaction with steroid)

RN 135498-32-7 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxo-5,8,11,14,17-eicosapentaenyl)oxy]-, [3.beta.(5Z,8Z,11Z,14Z,17Z)]- (9CI) (CA INDEX NAME)

PAGE 1-A

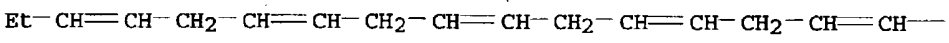


PAGE 1-B

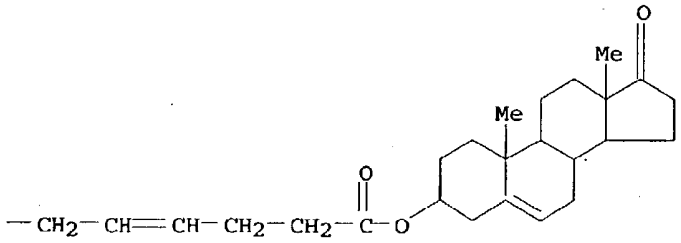


RN 135498-33-8 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxo-4,7,10,13,16,19-docosahexaenyl)oxy]-, [3.beta.(4Z,7Z,10Z,13Z,16Z,19Z)]- (9CI) (CA INDEX NAME)

PAGE 1-A

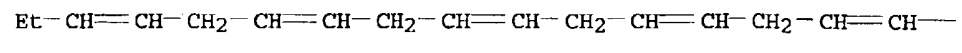


PAGE 1-B

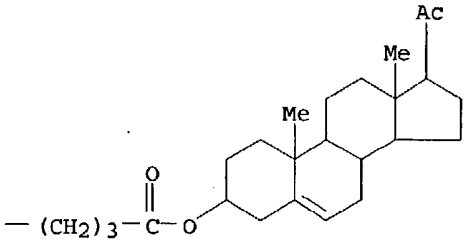


RN 135498-40-7 HCAPLUS
CN Pregn-5-en-20-one, 3-[(1-oxo-5,8,11,14,17-eicosapentaenyl)oxy]-, [3.beta.(5Z,8Z,11Z,14Z,17Z)]- (9CI) (CA INDEX NAME)

PAGE 1-A

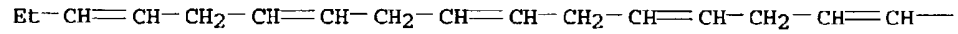


PAGE 1-B

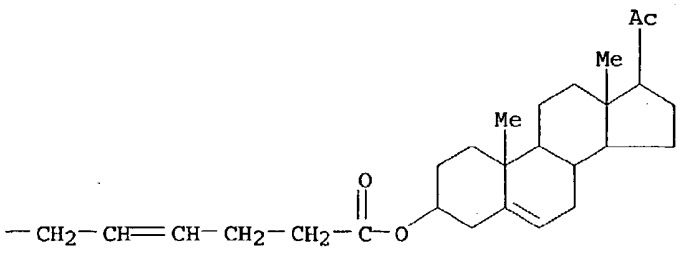


RN 135498-41-8 HCAPLUS
CN Pregn-5-en-20-one, 3-[(1-oxo-4,7,10,13,16,19-docosahexaenyl)oxy]-, [3.beta.(4Z,7Z,10Z,13Z,16Z,19Z)]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L9 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:425244 HCAPLUS
DOCUMENT NUMBER: 115:25244
TITLE: Separation of cholesterol esters by silver ion chromatography using high-performance liquid chromatography or solid-phase extraction columns packed with a bonded sulfonic acid phase
AUTHOR(S): Hoving, Edda B.; Muskiet, Frits A. J.; Christie, William W.
CORPORATE SOURCE: Cent. Lab. Clin. Chem., Univ. Hosp., Groningen, 9700 RB, Neth.
SOURCE: Journal of Chromatography (1991), 565(1-2), 103-10
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English

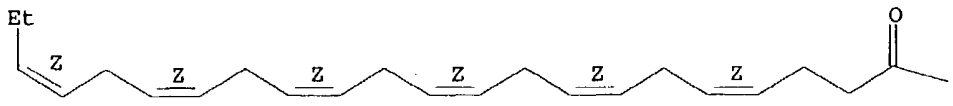
AB Two methods for the sepn. of cholesterol esters, based on the no. of double bonds in their fatty acid moieties, are presented. Ag+ chromatog., usually performed on TLC plates, was made suitable for HPLC and solid-phase extn. Sepn. on a bonded sulfonic acid phase loaded with Ag+ was achieved with cholesterol esters contg. up to 6 double bonds in their fatty acid moieties. No cross-contamination between fractions with different nos. of double bonds was detected with the HPLC method, as was demonstrated by subsequent gas chromatog. anal. of the fatty acid moieties, following transmethylation. For adequate sepns. with the solid-phase extn. columns, it proved important to avoid overloading. Blood plasma of human and sheep was analyzed. The methods may be of use for the off-line analyses of the sterol compns. of the isolated fractions, which each contain sterol esters with an equal no. of double bonds in their fatty acid moieties.

IT **70110-50-8 74892-97-0 134511-83-4**
RL: PROC (Process)
(sepn. of, of blood plasma of human or lab. animals by HPLC or extn. of chromatog. with silver ions)

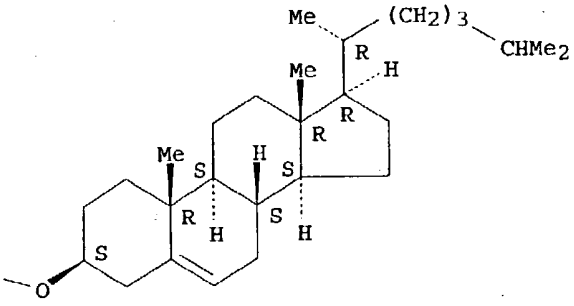
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



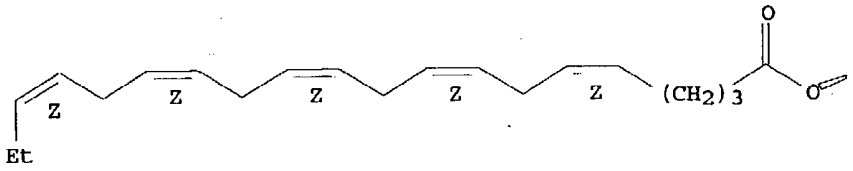
PAGE 1-B



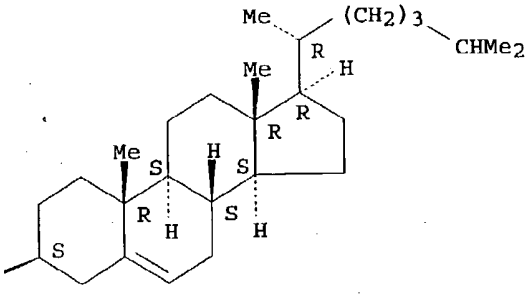
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

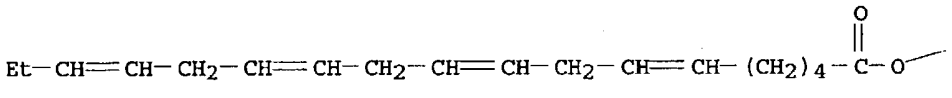


PAGE 1-B

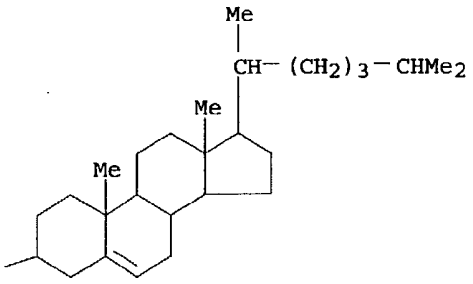


RN 134511-83-4 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, 6,9,12,15-octadecatetraenoate, (all-Z)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L9 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:226420 HCAPLUS
DOCUMENT NUMBER: 114:226420
TITLE: Comparative acyl specificities for transfer and selective uptake of high density lipoprotein cholesteryl esters
AUTHOR(S): Green, Simone R.; Pittman, Ray C.
CORPORATE SOURCE: Dep. Med., Univ. California, San Diego, La Jolla, CA, 92093-0613, USA
SOURCE: Journal of Lipid Research (1991), 32(3), 457-67
CODEN: JLPRAW; ISSN: 0022-2275
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The specificities of selective uptake and transfer mediated by plasma cholesteryl ester transfer protein (CETP) for various species of cholesteryl esters in high-d. lipoproteins (HDL) were compared. [3H]cholesterol was esterified with a series of variable-chain-length satd. acids and a series of variably unsatd. C18 acids. These were incorporated into synthetic HDL particles along with 125I-labeled apolipoprotein A-I as a tracer of HDL particles and [14C]cholesteryl oleate as an internal std. for normalization between prepns. Selective uptake by Y1-BS1 mouse adrenal cortical tumor cells was most extensively studied, but uptake by human HepG2 hepatoma cells and fibroblasts of human, rat, and rabbit origin was also examd. Acyl chain specificities for selective uptake and for CETP-mediated transfer were conversely related; selective uptake by all cell types decreased with increasing acyl

chain length and increased with the extent of unsatn. of C18 chains. In contrast, CETP-mediated transfer increased with acyl chain length, and decreased with unsatn. of C18 chains. The specificities of human and rabbit CETP were also compared, and were found to differ little. Assocd. expts. showed that HDL-assocd. triglycerides, traced by [3H]glyceryl trioleyl ether, were selectively taken up but at a lower rate than cholesteryl esters. The mechanism of this uptake appears to be the same as for selective uptake of cholesteryl esters.

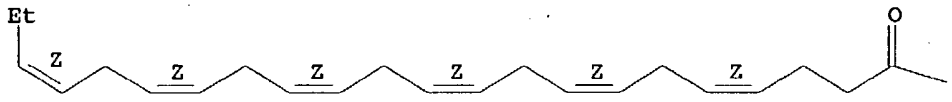
IT **70110-50-8**
RL: BIOL (Biological study)
(cholesteryl ester transfer protein-mediated transfer and selective uptake of high-d. lipoproteins contg., in human and lab. animal cells)

RN 70110-50-8 HCAPLUS

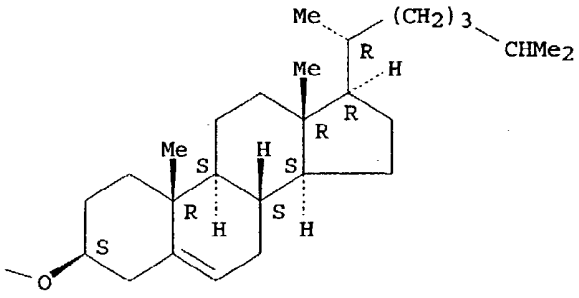
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:456849 HCAPLUS
DOCUMENT NUMBER: 113:56849
TITLE: Molecular species of cholesteryl esters formed in abetalipoproteinemia: effect of apoprotein B-containing lipoproteins
AUTHOR(S): Subbaiah, P. V.; Banerji, B.; Gregg, R. E.; Bagdade,

J. D.
CORPORATE SOURCE: Dep. Med., Rush Med. Coll., Chicago, IL, 60612, USA
SOURCE: Journal of Lipid Research (1990), 31(5), 927-32
CODEN: JLPRAW; ISSN: 0022-2275
DOCUMENT TYPE: Journal
LANGUAGE: English

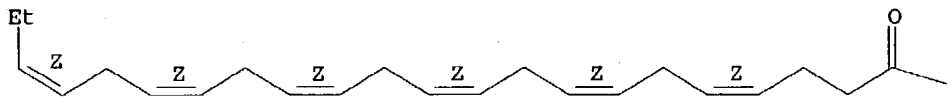
AB In order to study the effects of very low d. (VLDL) and low d. (LDL) lipoproteins on the activity and specificity of lecithin:cholesterol acyltransferase (LCAT), the authors detd. the mol. species of cholesteryl esters (CE) synthesized in the plasma from three abetalipoproteinemic (ABL) patients, before and after supplementation with normal VLDL or LDL. The patients' plasma had significantly lower concn. of 18:2 CE and higher concns. of 16:0 CE and 18:1 CE compared to normal plasma. Incubation of ABL plasma with [4-14C]cholesterol at 37.degree. and the subsequent anal. of labeled CE formed by high performance liq. chromatog. revealed that the major species formed was 16:0 CE (34% of total label), whereas similar incubation of the d>1.063 g/mL fraction of normal plasma resulted in the formation of predominantly 18:2 CE (45% of total label). Addn. of normal VLDL or LDL to ABL plasma stimulated the total LCAT activity by 30-80% and normalized the CE species synthesized. The LCAT activity of a normal d>1.063 g/mL fraction also was stimulated by the normal VLDL or LDL, but there was no alteration in the species of CE formed. Most of the CE synthesized was found in the added VLDL or LDL with both ABL and normal plasma, indicating that the CE transfer (CET) activity was not affected in ABL plasma. These results suggest that while the VLDL and LDL are required for the maximal activity of LCAT, the species of CE formed are primarily detd. by the mol. species compn. of phosphatidylcholine in the plasma.

IT **70110-50-8 74892-97-0**
RL: FORM (Formation, nonpreparative)
(formation of, low-d. and very-low-d. lipoproteins effects on, in abetalipoproteinemia of humans, lecithin:cholesterol acyltransferase in relation to)

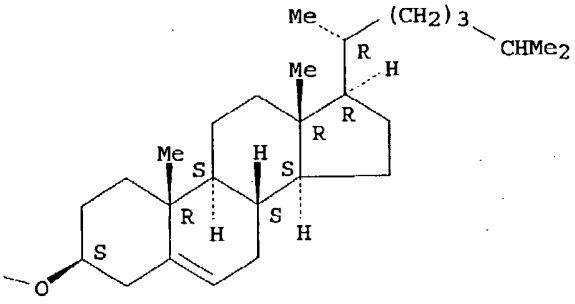
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



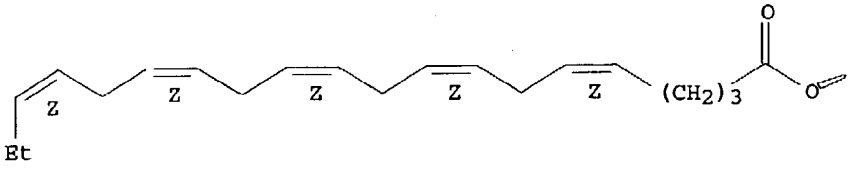
PAGE 1-B



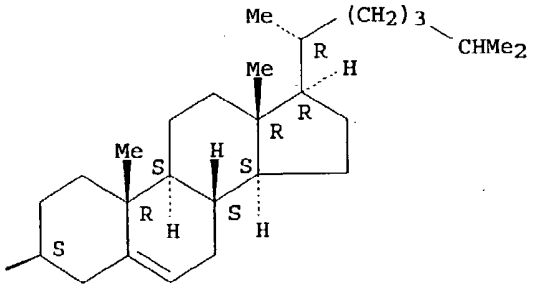
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:111110 HCAPLUS

DOCUMENT NUMBER: 108:111110
TITLE: Plasma triacylglycerol fatty acids in diabetic rats fed gamma-linolenic and marine n-3 fatty acids
AUTHOR(S): Huang, Yung Sheng; Horrobin, D. F.
CORPORATE SOURCE: Efamol Res. Inst., Kentville, NS, B4N 4H8, Can.
SOURCE: Medical Science Research (1987), 15(19), 1207-9
CODEN: MSCREJ; ISSN: 0269-8951
DOCUMENT TYPE: Journal
LANGUAGE: English

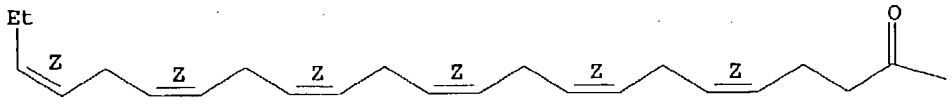
AB Streptozotocin-diabetic rats were fed fat-free diets supplemented with 29% conc. contg. 84% .gamma.-linolenic acid (18:3n-6) and 16% linoleic acid (18:2n-6), 2% fish oil conc. contg. 17.1% eicosapentaenoic acid (20:5n-3), 1.6% docosapentaenoic acid (22:5n-3) and 53.2% docosahexaenoic acid (22:6n-3), or 1% of each conc., and the fatty acid compn. of plasma phospholipids, cholesterol esters, and triglycerides was compared with that of control rats fed the same diets and supplements. The lipid levels in diabetic and control rats on the same diet were similar, but phospholipid and triglyceride levels were lower in both groups fed the n-3 fatty acids. Diabetes-induced changes in satd. and monounsatd. fatty acids of plasma lipids were not affected by diet. In diabetic rats fed 2% C18:3n-6, polyunsatd. fatty acids increased in all lipids, esp. triglycerides. Diabetes elevated the proportions of both n-3 and n-6 fatty acids in triglycerides, and increases in n-3 in rats fed the fish oil conc. were at the expense of n-6. In phospholipids, arachidonic acid (20:4n-6) levels were unchanged and 18:2n-6, 18:3n-6, and eicosatrienoic acid (20:3n-6) were increased. This suggests that .DELTA.6-desaturase and .DELTA.5-desaturase are inhibited in diabetes. Diabetes accentuated the suppression of .DELTA.5-desaturase activity found with the n-3 fatty acid diet. In cholesterol esters in diabetes, n-3 fatty acids were lower than in phospholipids.

IT **70110-50-8 74892-97-0**
RL: BIOL (Biological study)
(of blood plasma, dietary n-3 and n-6 polyunsatd. fatty acids effect on, in diabetes)

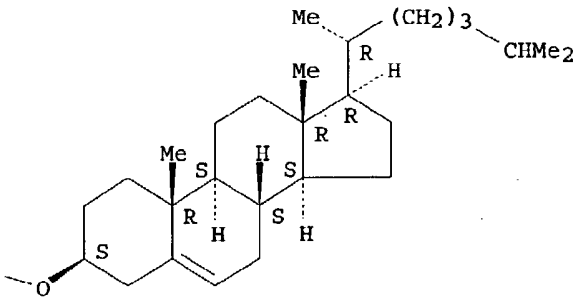
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



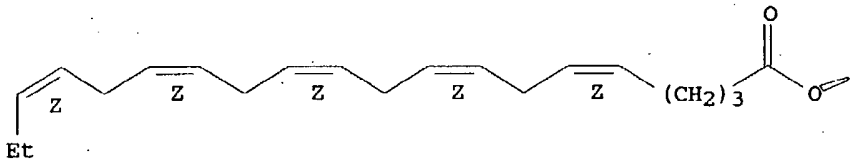
PAGE 1-B



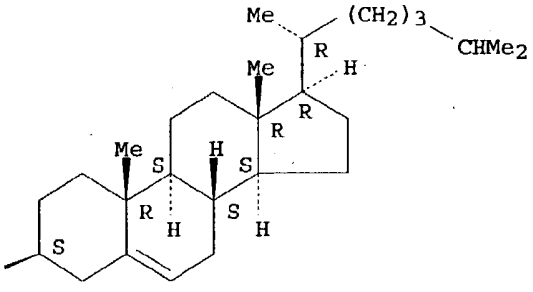
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:33818 HCAPLUS

DOCUMENT NUMBER: 108:33818
TITLE: Acyl unsaturation and cholesteryl ester miscibility in surfaces. Formation of lecithin-cholesteryl ester complexes
AUTHOR(S): Smaby, Janice M.; Brockman, Howard L.
CORPORATE SOURCE: Hormel Inst., Univ. Minnesota, Austin, MN, 55912, USA
SOURCE: Journal of Lipid Research (1987), 28(9), 1078-87
CODEN: JLPRAW; ISSN: 0022-2275
DOCUMENT TYPE: Journal
LANGUAGE: English

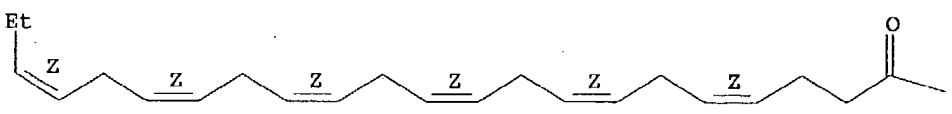
AB The surface behavior of a series of cholesteryl esters was studied in mixts. with a model phospholipid, 1-palmitoyl-2-oleoylphosphatidylcholine. The cholesteryl esters were representative of the predominant forms occurring naturally and qual. similarities in their phase behavior permits generalization of their surface properties. Quant. differences, however, show that the availability of cholesteryl esters in surface states is dependent on the structure of the acyl moiety. All except cholesteryl stearate were surface-active and formed preferred packing arrays, i.e., complexes, with the phosphatidylcholine at compns. grouped around cholesteryl ester mol fractions of 0.015. Exceptions were cholesteryl arachidonate and docosahexaenoate, with complex stoichiometries of 0.034 and 0.032, resp. Phosphatidylcholine had the same apparent area in all complexes, 56.5 .ANG.2, which was larger than that of uncomplexed phosphatidylcholine, 53.3 .ANG.2. This implies that the conformation or orientation of the 2 polyunsatd. species in complexes is markedly different from the others studied. The areas and hydrations of all uncomplexed cholesteryl esters were similar. Because mixing of complexes with uncomplexed cholesteryl ester deviated pos. from ideality, the apparent mol. areas of the uncomplexed cholesteryl esters ranged from 161 (complex-rich) to 107 .ANG.2 (cholesteryl ester-rich). The similarity of the monolayer phase complex stoichiometries and the bilayer miscibilities of cholesteryl oleate suggests a correspondence between states. If so, the availability of cholesteryl arachidonate or docosahexaenoate in bilayers should be .apprx.2-fold higher than that of other naturally occurring cholesteryl esters.

IT **70110-50-8**
RL: BIOL (Biological study)
(monolayer membranes contg. phosphatidylcholine and, phase and surface properties of, acyl chain unsatn. in relation to)

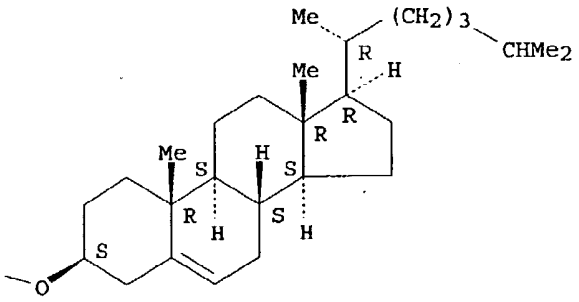
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1987:212000 HCAPLUS
DOCUMENT NUMBER: 106:212000
TITLE: Abnormal myocardial lipid composition in an infant with type II glutaric aciduria
AUTHOR(S): Galloway, John H.; Cartwright, Ian J.; Bennett, Michael J.
CORPORATE SOURCE: Dep. Hum. Metab., R. Hallamshire Hosp., Sheffield, UK
SOURCE: Journal of Lipid Research (1987), 28(3), 279-84
CODEN: JLPRAW; ISSN: 0022-2275
DOCUMENT TYPE: Journal
LANGUAGE: English

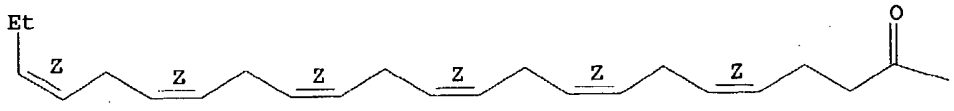
AB Myocardial lipids of an infant with glutaric aciduria type II (GAII) who die from sudden cardiac failure and of 5 infants who died suddenly from indeterminate causes (sudden infant death syndrome, SIDS) were analyzed. Histol. of the SIDS hearts was normal, but there was marked fatty deposition in the GAII heart. Total lipid was elevated 20-fold in the GAII heart. Of total fatty acids, 75% was derived from phospholipids in SIDS heart and 89% from neutral lipids in GAII heart. Increased levels of free oleic acid and a 6-fold elevation in the (n-6)/(n-3) fatty acid ratio in phospholipid were noted in GAII heart compared to SIDS hearts.

IT **70110-50-8**
RL: BIOL (Biological study)
(of heart, in glutaric aciduria type II in human infants)

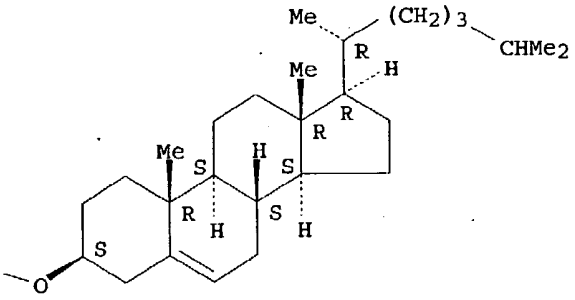
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1987:100300 HCAPLUS
DOCUMENT NUMBER: 106:100300
TITLE: Enrichment of long-chain .omega.9 and .omega.6 fatty acids in arterial cholesteryl esters in the early phase of atherogenesis
AUTHOR(S): Yla-Herttuala, Seppo
CORPORATE SOURCE: Dep. Biomed. Sci., Univ. Tampere, Tampere, SF-33101, Finland
SOURCE: Progress in Lipid Research (1986), 25(Essent. Fatty Acids, Prostaglandins Leukotrienes), 475-8
CODEN: PLIRDW; ISSN: 0163-7827
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fatty acid compn. of cholesteryl esters of human coronary arteries was altered in the early phases of atherogenesis (i.e. fatty streaks and fibrous plaques). Specifically, the relative proportions of oleate, eicosatrienoate (both 20:3.omega.9 and 20:3.omega.6 isomers), arachidonate, and docosahexaenoate increased with concomitant decreases in the short-chain satd. fatty acids. Causes of these changes in cholesteryl ester compn. during atherogenesis are discussed.

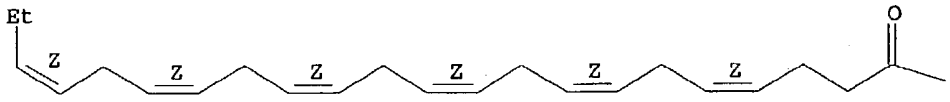
IT **70110-50-8 74892-97-0**
RL: BIOL (Biological study)
(of coronary artery, in atherogenesis in humans)

RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-

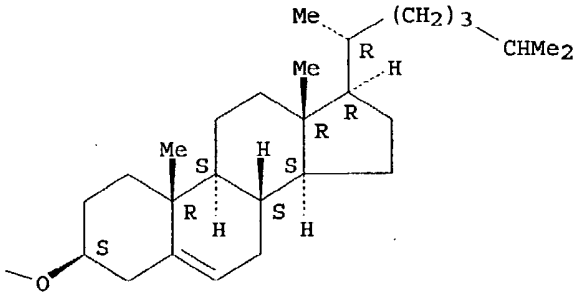
docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



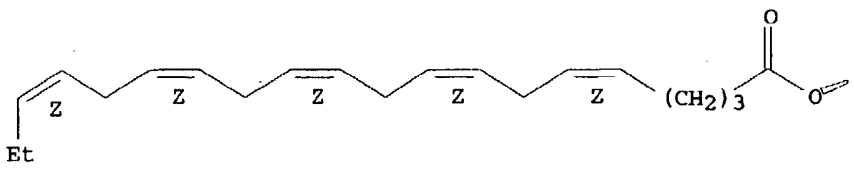
PAGE 1-B



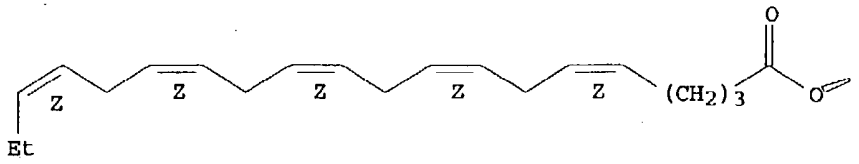
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

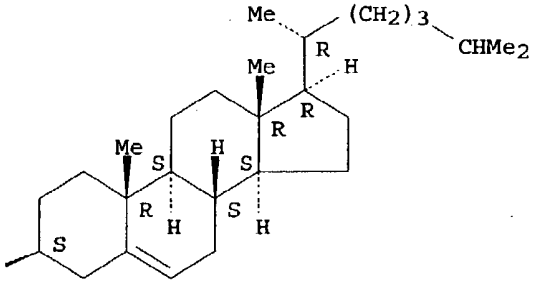
PAGE 1-A



PAGE 1-A



PAGE 1-B



L9 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:571160 HCAPLUS
DOCUMENT NUMBER: 105:171160
TITLE: A high cholesterol/cholate diet induced fatty liver in spontaneously hypertensive rats
AUTHOR(S): Ueno, Koji; Okuyama, Harumi
CORPORATE SOURCE: Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467, Japan
SOURCE: Lipids (1986), 21(8), 475-80
CODEN: LPDSAP; ISSN: 0024-4201
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A high cholesterol [57-88-5] diet induced fatty liver in spontaneously hypertensive rats. Although cholesterol ester and triacylglycerol accumulated in large amts. in liver, the increases of these lipids in plasma were relatively small and no increase in cholesterol and cholesterol ester was obsd. in aorta. In rats fed normal diet, plasma cholesterol ester mainly consisted of arachidonate species; however, oleate and linoleate esters became the most prominent species in rats fed a high-cholesterol diet. The amts. of oleate and linoleate at the 2-position of phosphatidylcholine in both plasma and liver were increased slightly, but the fatty acids of aorta lipids changed little by feeding a high cholesterol diet. These results indicate that the liver of rats fed the high cholesterol diet do not secrete cholesterol ester and

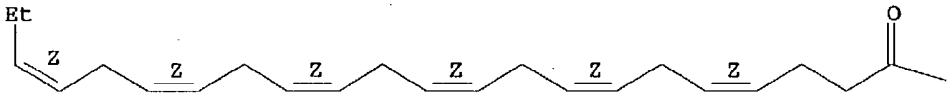
triacylglycerol with altered fatty acids as rapidly as they are synthesized and that the increased levels of cholesterol oleate in liver and plasma are not directly correlated with atherogenic lesions under these conditions.

IT **70110-50-8 74892-97-0**
RL: BIOL (Biological study)
(of blood plasma and liver, dietary cholesterol effect on)

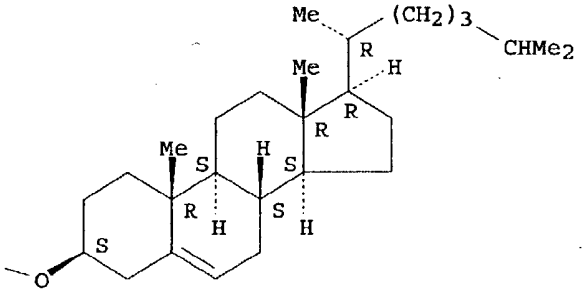
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



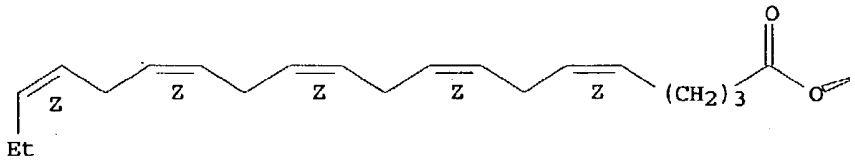
PAGE 1-B



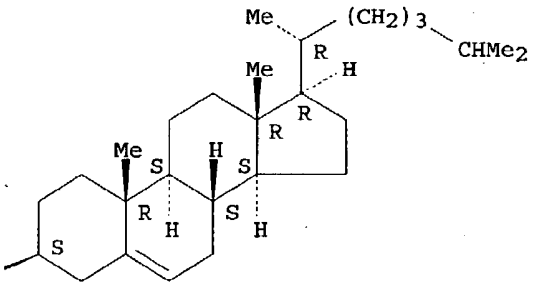
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:531638 HCAPLUS
DOCUMENT NUMBER: 105:131638
TITLE: Fatty acid composition of individual plasma steryl esters in phytosterolemia and xanthomatosis
AUTHOR(S): Kuksis, A.; Myher, J. J.; Marai, L.; Little, J. A.; McArthur, R. G.; Roncari, D. A. K.
CORPORATE SOURCE: Bant. Best Dep., Univ. Toronto, Toronto, ON, M5G 1L6, Can.
SOURCE: Lipids (1986), 21(6), 371-7
CODEN: LPDSAP; ISSN: 0024-4201
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fatty acid compn. of the individual plasma steryl esters was detd. in a subject with phytosterolemia and xanthomatosis. In general, each fatty acid was esterified to the same complement of sterols, and the esterified sterols possessed a compn. comparable to that of the free plasma sterols, which was comprised of about 75% cholesterol, 6% campesterol, 4% 22,23-dihydrobrassicasterol, and 15% .beta.-sitosterol. The fatty acid compn. of the steryl esters differed from that of the 2-position of the plasma phosphatidylcholines, which contained less palmitic and oleic and more linoleic acid. The plasma cholesteryl and plant steryl esters in phytosterolemia may originate from both synthesis in plasma via the lecithin-cholesterol acyltransferase and synthesis in tissues via the

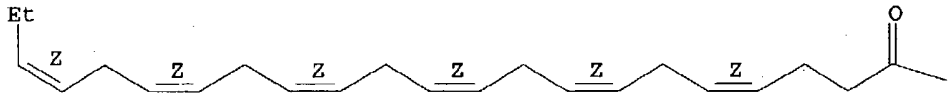
acylCoA-cholesterol acyltransferase.

IT **70110-50-8 74892-97-0**
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(of blood plasma, in phytosterolemia and xanthomatosis in human)

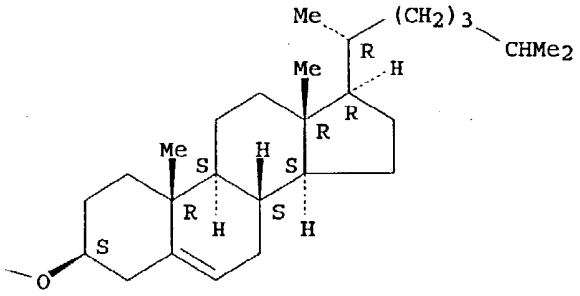
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



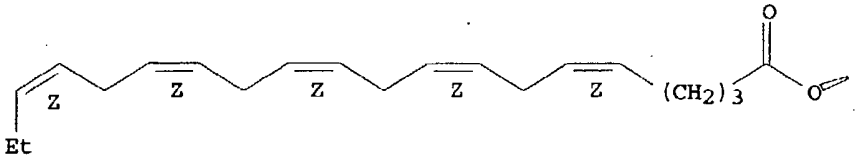
PAGE 1-B



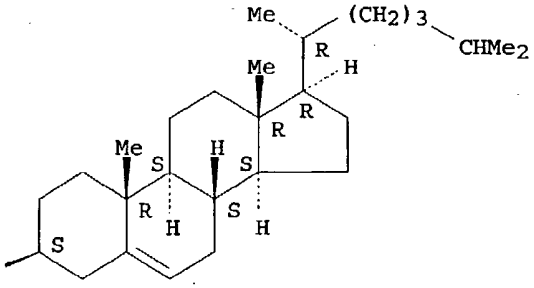
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:107333 HCAPLUS
DOCUMENT NUMBER: 104:107333
TITLE: The fatty-acid spectrum in plasma and adipose tissue in patients with psoriasis
AUTHOR(S): Vahlquist, C.; Berne, B.; Boberg, M.; Michaelsson, G.; Vessby, B.
CORPORATE SOURCE: Dep. Dermatol., Univ. Uppsala, Uppsala, Swed.
SOURCE: Archives of Dermatological Research (1985), 278(2), 114-19
CODEN: ADREDL; ISSN: 0340-3696
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Long-chained fatty acids were examd. in plasma lipid esters and adipose tissue obtained from 20 male psoriatic patients and 36 matched controls. In comparison with healthy controls, the patients' plasma lipid esters contained lower levels of linoleic acid and .alpha.-linolenic acid, and higher levels of dihomo-.gamma.-linolenic acid. In the adipose tissue of the patients, the amt. of .alpha.-linolenic acid was decreased, whereas that of arachidonic acid was increased. The obsd. changes were more pronounced in patients with severe psoriasis than in those with a milder form of the disease. Apparently, psoriatic patients differ from healthy controls with regard to the distribution of several of the essential long-chained fatty acids involved in the biosynthesis of prostaglandins

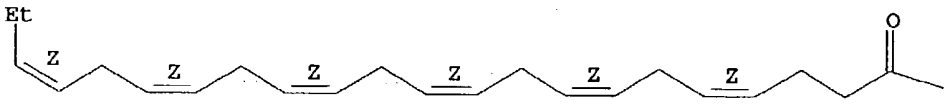
and leukotrienes. The relevance of these findings to the development of psoriasis remains to be established.

IT **70110-50-8 74892-97-0**
RL: BIOL (Biological study)
(of blood plasma, in psoriasis in humans)

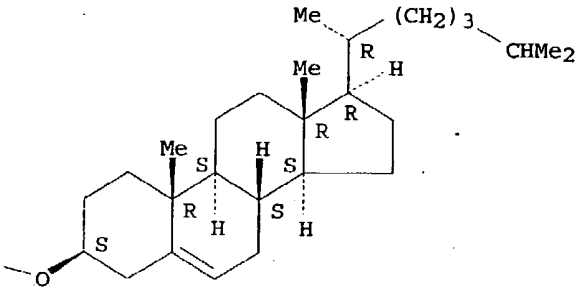
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



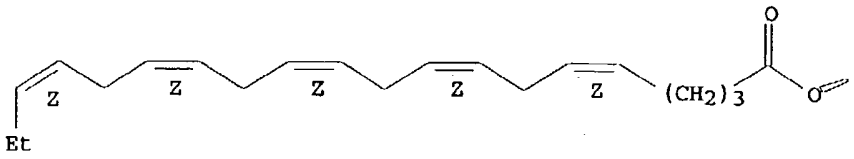
PAGE 1-B



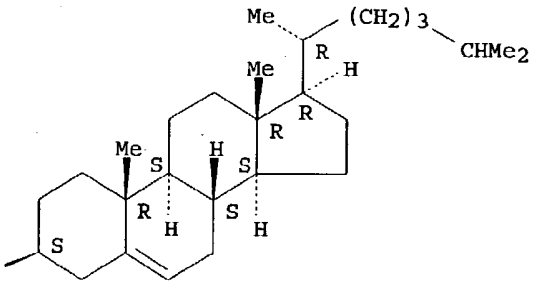
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	1986:18999 HCAPLUS
DOCUMENT NUMBER:	104:18999
TITLE:	Fatty acid composition of serum cholesteryl esters in 3- to 18-year-old Finnish children and its relation to diet
AUTHOR(S):	Moilanen, Teemu; Raesaenen, Leena; Viikari, Jorma; Aakerblom, Hans K.; Ahola, Maarit; Uhari, Matti; Pasanen, Matti; Nikkari, Tapio
CORPORATE SOURCE:	Dep. Biomed. Sci., Univ. Tampere, Tampere, SF-33101/10, Finland
SOURCE:	American Journal of Clinical Nutrition (1985), 42(4), 708-13 CODEN: AJCNAC; ISSN: 0002-9165
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The compn. of serum cholesteryl esters (CE) was detd. by gas chromatog. in 1348 boys and girls. A dietary survey was carried out simultaneously by using the 48-h recall method. The dietary polyunsatd./satd. fatty acid (PS) ratio was highly correlated with CE fatty acids: pos. with linoleate and total .omega.6 fatty acids and neg. with satd., monounsatd., and .omega.3 polyunsatd. fatty acids. The highest mean percentage of cholesterol linoleate [604-33-1] was found in 15-yr-old girls (52.7%) and lowest in 3-yr-old girls (48.1%) . Age, sex, and the degree of puberty

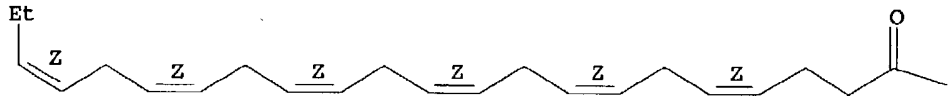
had no independent effect on cholesterol linoleate after it had been adjusted for the effect of dietary P/S ratio. The fatty acid compn. of serum CE depends on the quality of dietary fat, and cholesterol linoleate is a useful reflector of the dietary P/S ratio. The neg. correlation between CE .omega.3 fatty acids and dietary P/S ratio may be due to displacement of the .omega.3 acids in serum CE by the much higher proportion of dietary linoleate.

IT **70110-50-8 74892-97-0**
RL: BIOL (Biological study)
(of blood serum, of children, dietary fat effect on, age and sex in relation to)

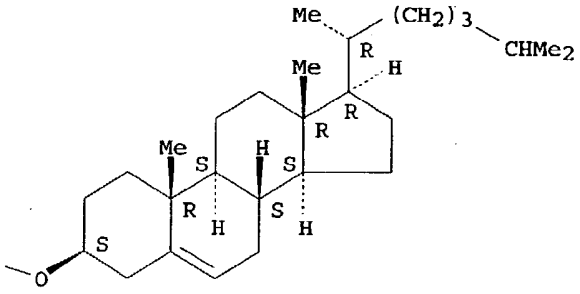
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



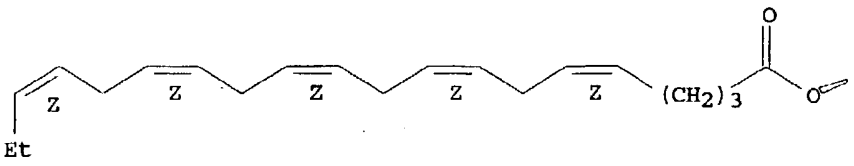
PAGE 1-B



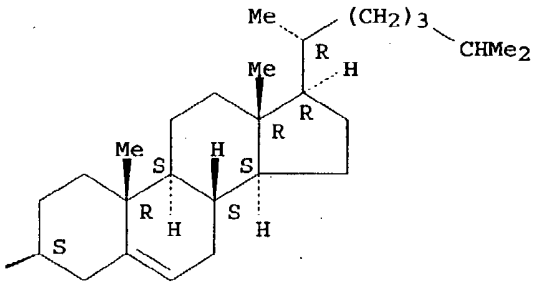
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:146909 HCAPLUS
DOCUMENT NUMBER: 102:146909
TITLE: Accumulation of HDL-like lipoproteins in the plasma low-density fractions of tumor-bearing mice
AUTHOR(S): Damen, Jan; De Widt, John; Hengeveld, Trudi; Van Blitterswijk, Wim J.
CORPORATE SOURCE: Div. Cell Biol., Netherlands Cancer Inst., Amsterdam, 1066 CX, Neth.
SOURCE: Biochimica et Biophysica Acta (1985), 833(3), 495-8
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

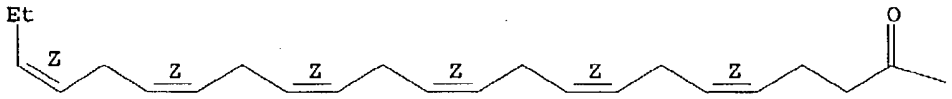
AB Outgrowth of the transplanted GRSL lymphoma in GR mice yielded several-fold increased blood plasma levels of low- and very-low-d. lipoproteins, while high-d. lipoproteins (HDL) were strongly reduced. Changes in cholesteryl ester fatty acid profiles indicated an accumulation of HDL-like particles rather than LDL in the low-d. fractions. By i.v. injection of [14C]cholesteryl ester-labeled HDL into tumor-bearing mice, conversion of HDL into lipoproteins of low d. was demonstrated.

IT **70110-50-8**
RL: BIOL (Biological study)
(of lipoproteins of blood plasma of tumor-bearing host)
RN 70110-50-8 HCAPLUS

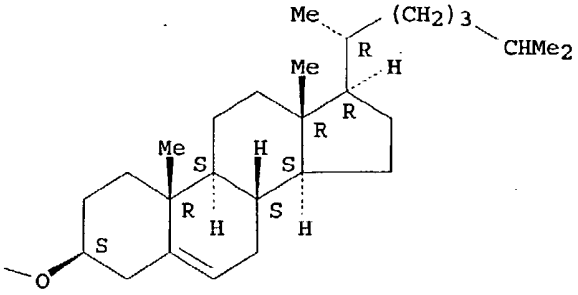
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:42304 HCAPLUS
DOCUMENT NUMBER: 102:42304
TITLE: Separation of neutral lipids and free fatty acids by high-performance liquid chromatography using low wavelength ultraviolet detection
AUTHOR(S): Hamilton, James G.; Comai, Karen
CORPORATE SOURCE: Dep. Pharmacol., Hoffmann-La Roche, Nutley, NJ, 07110, USA
SOURCE: Journal of Lipid Research (1984), 25(10), 1142-8
CODEN: JLPRAW; ISSN: 0022-2275
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Normal phase, isocratic high-performance liq. chromatog. methods are described for the sepn. of neutral lipid and fatty acid classes using low wavelength detection. Prior to HPLC, methods were developed and are described for the sepn. of phospholipids from neutral lipids and fatty acids using small (600 mg) silica Sep-Paks. Recoveries of cholesteryl esters, triglycerides, fatty acids, and phospholipids from the silica columns were >95%. Two mobile phases are described for lipid class sepn.

by HPLC. The 1st mobile phase, hexane-2-propanol-AcOH acid (100:0.5:0.01), resulted in incomplete sepn. of cholesteryl ester and triglyceride but excellent sepns. of fatty acids and cholesterol. The 2nd mobile phase, hexane-Bu chloride-MeCN-AcOH (90:10:1.5:0.01), resulted in complete sepn. of the 4 lipid classes. This mobile phase also sepd. individual triglycerides and fatty acids based on the no. of double bonds. Recoveries of radiolabeled lipids for the 4 lipid classes from HPLC was >95% with both mobile phases.

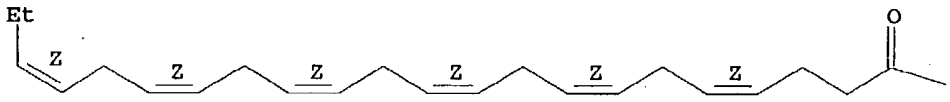
IT **70110-50-8**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by HPLC with UV detection)

RN 70110-50-8 HCAPLUS

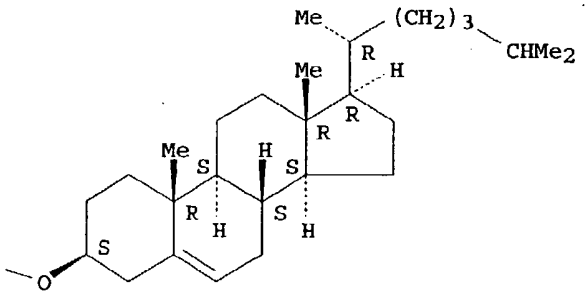
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1980:548713 HCAPLUS
DOCUMENT NUMBER: 93:148713
TITLE: Effects of linolenic acid deficiency on the fatty acid patterns in plasma and liver cholesteryl esters, triglycerides and phospholipids in female rats
AUTHOR(S): Tinoco, J.; Endemann, G.; Hincenbergs, I.; Medwadowski, B.; Miljanich, P.; Williams, M. A.

CORPORATE SOURCE: Dep. Nutr. Sci., Univ. California, Berkeley, CA, 94720, USA
SOURCE: Journal of Nutrition (1980), 110(7), 1497-505
CODEN: JONUAI; ISSN: 0022-3166
DOCUMENT TYPE: Journal
LANGUAGE: English

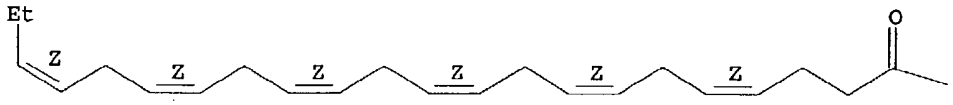
AB These expts. were performed to measure the effects of linolenic acid [463-40-1] deficiency on neutral lipids of plasma and liver, and to investigate the metabolic interaction between dietary choline [62-49-7] and linolenic acid. Rats were fed for 2 generations on a linolenic acid-deficient diet contg. Me linoleate as the only source of lipid. Control rats were supplemented with Me linolenate; 2nd-generation linolenate-deficient rats and control rats were fed low-methionine, choline-deficient diets for 2 wks. Half the animals in each group were given choline-supplemented diets. Plasma and liver total cholesterol [57-88-5], esterified cholesterol, triglyceride and major phospholipid classes, and the fatty acids of these classes, were measured. Linolenic acid deficiency reduced the concns. of plasma triglycerides in both choline-deficient and choline-supplemented rats. Evidence for a metabolic interaction between choline and linolenic acid was not obtained because the rats responded very weakly to the choline deficiency. Linolenate deficiency reduced the proportions of n-3 fatty acids, particularly C22:6

IT **70110-50-8 74892-97-0**
RL: BIOL (Biological study)
(of blood plasma and liver, in linolenic acid deficiency)

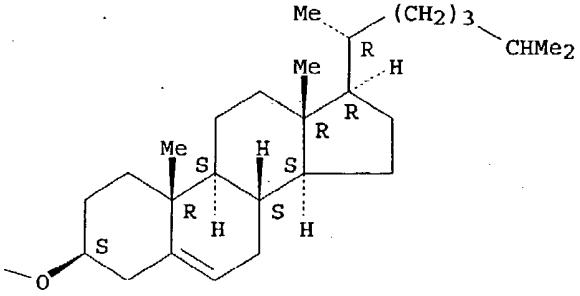
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



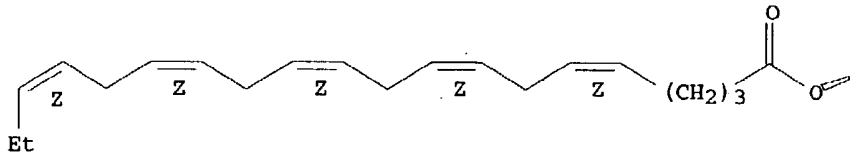
PAGE 1-B



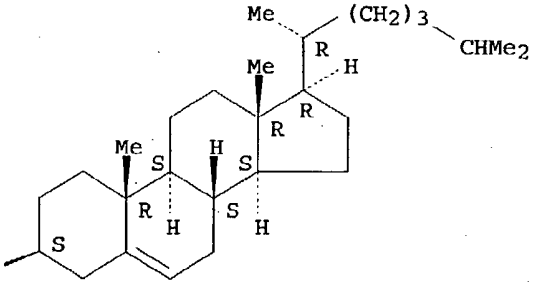
RN 74892-97-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1979:182488 HCAPLUS

DOCUMENT NUMBER: 90:182488
TITLE: Methanolysis of cholesteryl esters: conditions for quantitative preparation of methyl esters
AUTHOR(S): Tuckey, Robert C.; Stevenson, Patricia M.
CORPORATE SOURCE: Dep. Biochem., Univ. Western Australia, Nedlands, Australia
SOURCE: Analytical Biochemistry (1979), 94(2), 402-8
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English

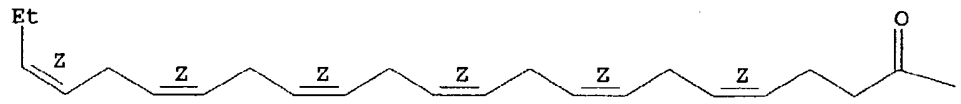
AB The conditions required to obtain a quant. yield of Me esters from cholesteryl esters by alk. methanolysis were investigated. Methanolysis of the cholesteryl ester for 60 min at room temp. with M NaOMe reagent ensured complete reaction. Some ester hydrolysis always accompanied methanolysis and necessitated acid-catalyzed methylation of the resultant fatty acids after completion of the alcoholysis. Anal. of the compn. of Me ester product and remaining cholesteryl ester substrate before methanolysis had gone to completion showed selective hydrolysis of some fatty acid cholesteryl esters and illustrates the importance of obtaining a quant. yield of Me esters following methanolysis.

IT **70110-50-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(methanolysis of, alk., fatty acids Me esters formation in relation to)

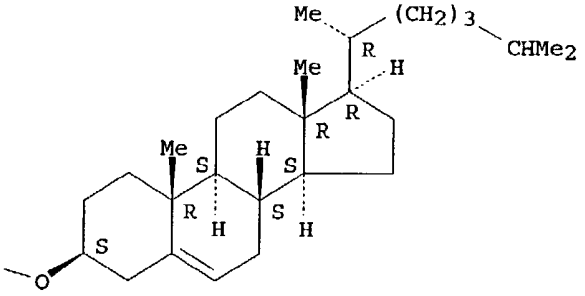
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L9 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1977:50928 HCAPLUS
DOCUMENT NUMBER: 86:50928
TITLE: The effects of ACTH, aminoglutethimide and hypophysectomy on rat adrenal lipids
AUTHOR(S): Miyachi, Yukitaka
CORPORATE SOURCE: Sch. Med., Univ. Tokyo, Tokyo, Japan
SOURCE: Nippon Naibunpi Gakkai Zasshi (1976), 52(10), 973-82
CODEN: NNGZAZ; ISSN: 0029-0661
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

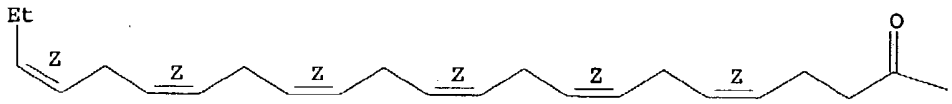
AB ACTH [9002-60-2] administration to the rat decreased the cholesterol ester (I) content of adrenal gland, preferentially cholesteryl arachidonate (II) [604-34-2]. Hypophysectomy or aminoglutethimide (III) [125-84-8] administration suppressed adrenal steroidogenesis and increased adrenal I content. Cholesteryl palmitate [601-34-3], cholesteryl oleate [303-43-5], and cholesteryl linoleate (IV) [604-33-1] were increased and II and cholesteryl docosaenoate (V) [61510-10-9] were decreased in the lipid fraction of adrenal glands from hypophysectomized rats. III administration increased II, IV, and cholesteryl palmitoleate [16711-66-3], and decreased V and cholesteryl docosahexaenoate [**61510-11-0**].

IT **70110-50-8**
RL: BIOL (Biological study)
(of adrenal gland, ACTH effect on, corticosteroid formation in relation to)

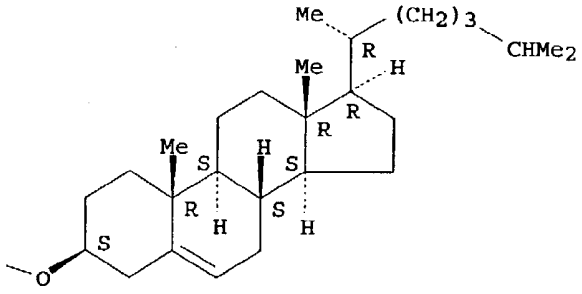
RN 70110-50-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

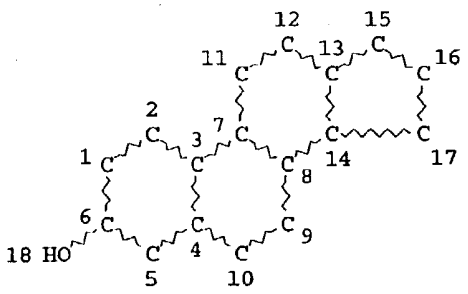
PAGE 1-A



PAGE 1-B



```
=> d que l39
L10             STR
```



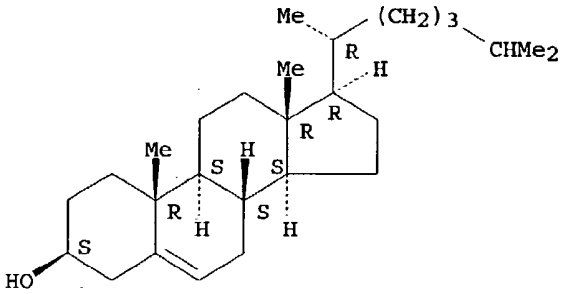

```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  18

STEREO ATTRIBUTES: NONE
L21           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  10417-94-4
L22           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  6217-54-5
L23           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  20290-75-9
L24       10345 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21 OR L22 OR L23
L25       22111 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "FATTY ACIDS (L) ESTERS"+OLD/C
                T
L26         265 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L25
L28             TRANSFER  PLU=ON  L26 1- RN :    2342 TERMS
L29        2342 SEA FILE=REGISTRY ABB=ON  PLU=ON  L28
L31          59 SEA FILE=REGISTRY SUB=L29 SSS FUL L10
L33          57 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L31 AND L25
L38       19365 SEA FILE=HCAPLUS ABB=ON  PLU=ON  18-5/CC
L39          18 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L38

=> d l39 ibib ab hitstr 1-18

L39  ANSWER 1 OF 18  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2003:512468  HCAPLUS
DOCUMENT NUMBER:          139:213577
TITLE:                    n-3 Fatty acids and 5-y risks of death and
                          cardiovascular disease events in patients with
                          coronary artery disease
AUTHOR(S):                Erkkilae, Arja T.; Lehto, Seppo; Pyoeraelae, Kalevi;
                          Uusitupa, Matti I. J.
CORPORATE SOURCE:         Department of Clinical Nutrition, University of Kuopio
                          and Kuopio University Hospital, Kuopio, Finland
SOURCE:                   American Journal of Clinical Nutrition (2003), 78(1),
                          65-71
                          CODEN: AJCNAC; ISSN: 0002-9165
PUBLISHER:                American Society for Clinical Nutrition
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   Data on the assocns. of n-3 fatty acid contents in blood serum lipids and
```

mortality in patients with coronary artery disease (CAD) are limited. High proportion of n-3 fatty acids in blood serum lipids could be assocd. with decreased risks of death and coronary events in patients with established CAD. We measured dietary intakes via food records and the fatty acid compn. of blood serum cholesteryl esters (CE) in 285 men and 130 women with CAD (av. age 61 yr; range 33-74 yr). The patients were followed up for 5 yr. During the follow-up period, 36 patients died, 21 had myocardial infarction, and 12 had stroke. The relative risk (RR) values of death adjusted for cardiovascular disease risk factors for subjects in the highest tertile of fatty acids in CE compared with those in the lowest tertile were 0.33 (95% CI 0.11-0.96) for .alpha.-linolenic acid, 0.33 (0.12-0.93) for eicosapentaenoic acid, and 0.31 (0.11-0.87) for docosahexaenoic acid. High proportions of eicosapentaenoic acid in CE were assocd. with low risk of CAD death. Compared with no consumption, the consumption of fish tended to be assocd. with lower risk of death [1-57 g/day, RR 0.50 (0.20-1.28); >57 g/day, RR 0.37 (0.14-1.00)]. Thus, high proportions of polyunsatd. n-3 fatty acids in blood serum lipids are assocd. with substantially decreased risk of death.

IT **57-88-5D**, Cholesterol, esters **6217-54-5**
10417-94-4
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dietary polyunsatd. n-3 fatty acids intake and levels in blood serum cholesteryl esters relations to 5-yr risk of death and cardiovascular disease events in patients with established coronary artery disease)

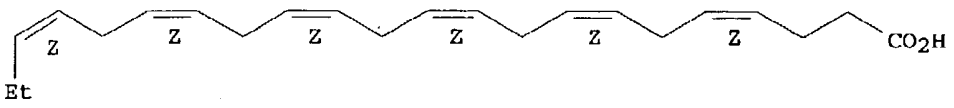
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



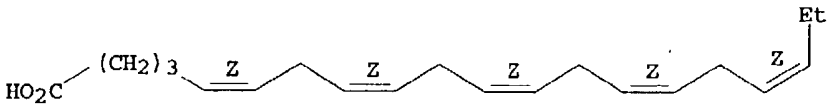
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



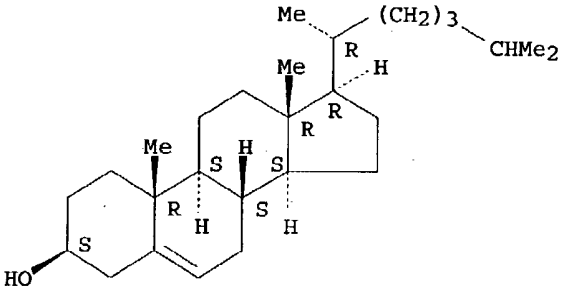
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **57-88-5**, Cholesterol, biological studies
RL: BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(dietary polyunsatd. n-3 fatty acids intake and levels in blood serum cholesteryl esters relations to 5-yr risk of death and cardiovascular disease events in patients with established coronary artery disease)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:167760 HCAPLUS
DOCUMENT NUMBER: 134:207224
TITLE: A nutritional supplement for lowering serum triglyceride and cholesterol levels
INVENTOR(S): Wright, Jeffrey L. C.; Kralovec, Jaroslav A.
PATENT ASSIGNEE(S): Ocean Nutrition Canada Ltd., Can.
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001015552	A1	20010308	WO 2000-CA1011	20000830

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,

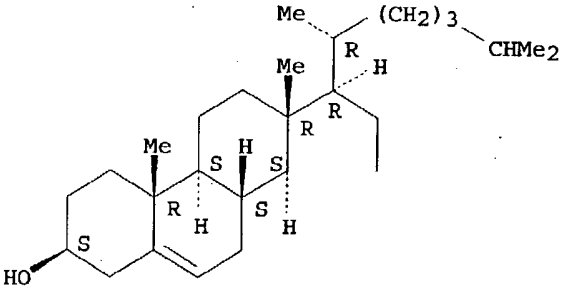
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1211955 A1 20020612 EP 2000-956002 20000830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
PRIORITY APPLN. INFO.: US 1999-385834 A 19990830
WO 2000-CA1011 W 20000830

AB Triglycerides and cholesterol in the bloodstream are important factors in the development of cardiovascular disease. The present invention discloses a nutritional supplement comprising a sterol and an omega-3 fatty acid, or an ester thereof, for lowering cholesterol and triglyceride levels in the bloodstream of a subject. Preferably, the sterol and omega-3 fatty acid are together in the form of an ester.

IT **57-88-5**, Cholesterol, processes
RL: REM (Removal or disposal); PROC (Process)
(blood; nutritional supplement for lowering serum triglyceride and cholesterol levels)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

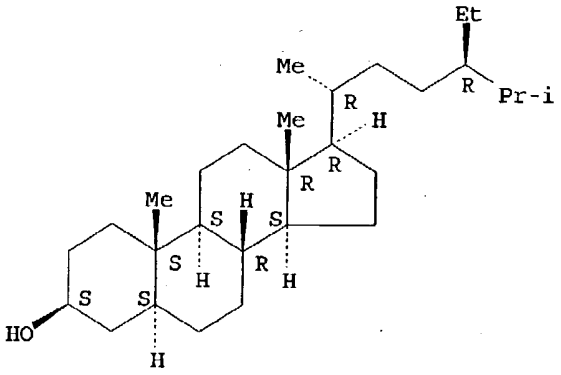
Absolute stereochemistry.



IT **83-45-4**, .beta.-Sitostanol **83-46-5** **83-48-7**, Stigmasterol **6217-54-5**, Cervonic acid **10417-94-4**, Timnodonic acid **17605-67-3**, Fucosterol
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nutritional supplement for lowering serum triglyceride and cholesterol levels)

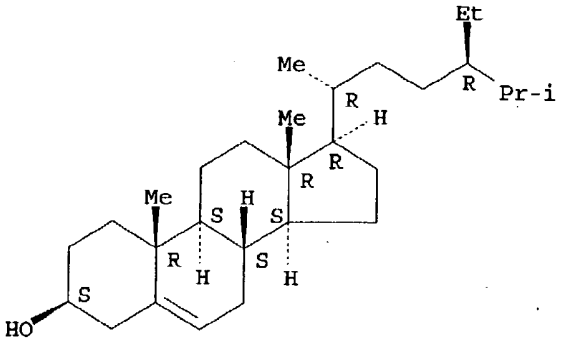
RN 83-45-4 HCAPLUS
CN Stigmastan-3-ol, (3.beta.,5.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



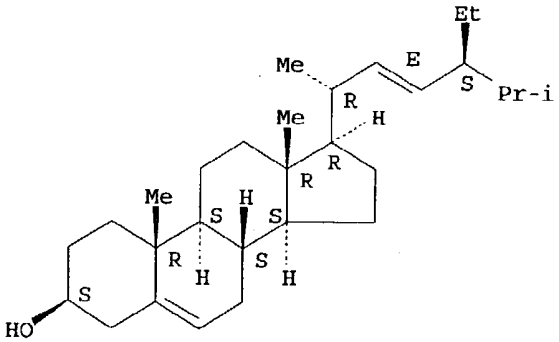
RN 83-46-5 HCAPLUS
CN Stigmast-5-en-3-ol, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 83-48-7 HCAPLUS
CN Stigmasta-5,22-dien-3-ol, (3.beta.,22E)- (9CI) (CA INDEX NAME)

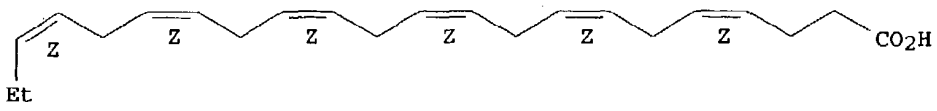
Absolute stereochemistry.
Double bond geometry as shown.



RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA

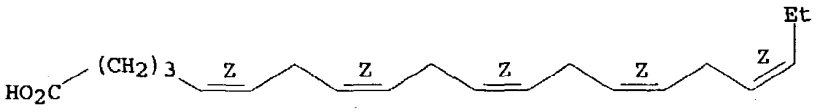
INDEX NAME)

Double bond geometry as shown.



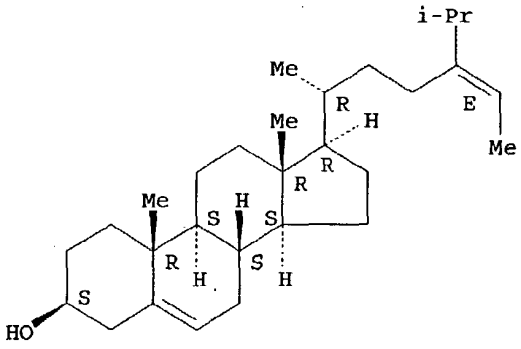
RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 17605-67-3 HCAPLUS
CN Stigmasta-5,24(28)-dien-3-ol, (3.beta.,24E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:614311 HCAPLUS
DOCUMENT NUMBER: 133:281062
TITLE: Measurement of free cholesterol, cholesteryl esters and cholesteryl linoleate hydroperoxide in copper-oxidised low density lipoprotein in healthy volunteers supplemented with a low dose of n-3 polyunsaturated fatty acids
AUTHOR(S): Higgins, Siobhan; McCarthy, Sinead N.; Corridan, Bernice M.; Roche, Helen M.; Wallace, Julie M. W.; O'Brien, Nora M.; Morrissey, Patrick A.
CORPORATE SOURCE: Division of Nutritional Sciences, Department of Food Science and Technology, University College, Cork, Ire.

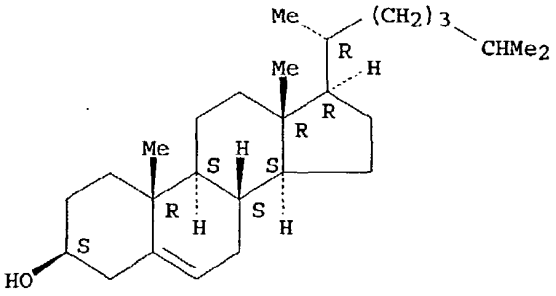
SOURCE: Nutrition Research (New York) (2000), 20(8), 1091-1102
CODEN: NTRSDC; ISSN: 0271-5317
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effects of daily dietary supplementation with n-3 polyunsatd. fatty acids (PUFA) on the oxidative modification of low-d. lipoproteins (LDL) were studied in healthy humans. They were given 0.9 g n-3 PUFA as fish oil (FO group) or 0.9 g olive oil (CO control group) for 16 wk. The oxidative modification of LDL was assessed by measuring concns. of free cholesterol, cholesteryl esters, and cholesteryl linoleate hydroperoxide (Ch18:2-OOH) in LDL following Cu-induced lipid peroxidn. for 0, 2, 3, and 4 h. The compn. of LDL fatty acids over 4 h of the Cu-induced oxidn. was also evaluated. The LDL eicosapentaenoic acid (C20:5n-3) and docosahexaenoic acid (C22:6n-3) contents were higher in the FO vs. CO group following oil supplementation. Linoleic acid (C18:2n-6), arachidonic acid (C20:4n-6), C20:5n-3, and C22:6n-3 were oxidized in LDL following 4 h of Cu-induced oxidn. The proportions of palmitic acid (C16:0), palmitoleic acid (C16:1n-7), stearic acid (C18:0), and oleic acid (C18:1n-9) increased in the FO and CO groups after 4 h of Cu-induced oxidn. The concns. of cholesteryl oleate, cholesteryl linoleate, cholesteryl arachidonate, and cholesteryl docosahexaenoate were decreased following the Cu-induced oxidn. in both groups. The Ch18:2-OOH concns. were increased following 3 h of oxidn. in both groups compared with 0 h Cu-induced oxidn., but decreased after 4 h. There was no significant difference in the concns. of Ch18:2-OOH between the groups during Cu-induced oxidn. Thus, moderate dietary intakes of n-3 PUFA may not significantly influence the susceptibility of LDL to Cu-induced oxidn. in vitro.

IT **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, esters **6217-54-5 10417-94-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary fish oil n-3 polyunsatd. fatty acids relation to blood free cholesterol, cholesteryl esters and cholesteryl linoleate hydroperoxide in Cu-oxidized low-d. lipoprotein in healthy humans)

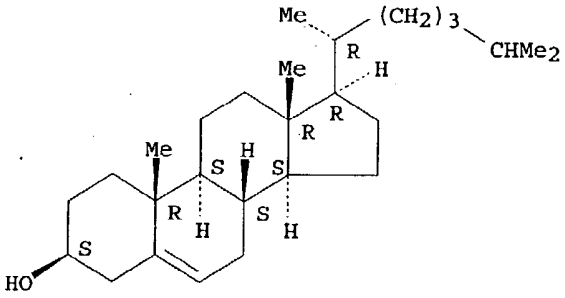
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



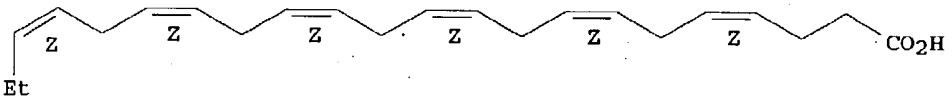
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



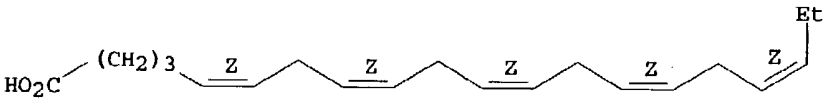
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:11987 HCAPLUS
DOCUMENT NUMBER: 132:165550
TITLE: Incorporation and washout of orally administered n-3 fatty acid ethyl esters in different plasma lipid fractions
AUTHOR(S): Zuijdgeest-Van Leeuwen, Sonja D.; Dagnelie, Pieter C.; Rietveld, Trinet; Van den Berg, J. Willem O.; Wilson, J. H. Paul
CORPORATE SOURCE: Institute of Internal Medicine II, Erasmus University, Rotterdam, 3000 DR, Neth.
SOURCE: British Journal of Nutrition (1999), 82(6), 481-488
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The incorporation of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) into blood plasma lipids was quantified after oral administration of n-3 fatty acid Et ester supplement in 5 healthy humans (1 man, 4 women).

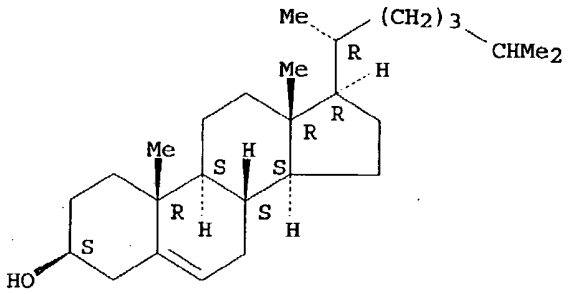
Preliminary information regarding EPA half-life (needed to establish optimal dosing schedule) was gathered. The subjects ingested two 8.5 g doses of the supplement daily for 7 days, supplying 6.0 g EPA and 5.3 g DHA/day. The fatty acid compn. of blood plasma phospholipids (PL), cholesteryl esters, (CE) and triacylglycerols (TAG) was detd. during supplementation and during the subsequent 7-day washout period. The half-lives of EPA and DHA were calcd. The proportion of EPA in PL showed a 15-fold increase after 7 days, while DHA showed a smaller increase. In CE the levels of EPA also increased, while DHA did not increase at all. The incorporation of DHA into TAG was even higher than that of EPA. The half-life of EPA in PL ranged 1.63-2.31 (1.97.+-.0.15) days, whereas the half-life of EPA in CE was 3.27.+-.0.56 days. In 3 subjects the washout of EPA and DHA from TAG seemed to follow a bi-exponential pattern, with a short half-life (<1 day) in the initial phase and a half-life of several days in the second phase. Thus, EPA Et esters are rapidly incorporated into blood plasma lipids, esp. into PL. The relatively long half-life of EPA in plasma may permit a dosing schedule with intervals of .gtoreq.12 h in supplementation studies.

IT **57-88-5D**, Cholesterol, esters
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary eicosapentaenoic and docosahexaenoic acid Et esters incorporation and washout kinetics in blood plasma lipid fractions in humans)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

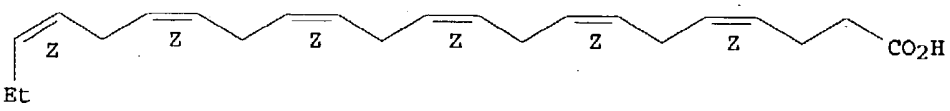


IT **6217-54-5 10417-94-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); PROC (Process); USES (Uses)
(dietary eicosapentaenoic and docosahexaenoic acid Et esters incorporation and washout kinetics in blood plasma lipid fractions in humans)

RN 6217-54-5 HCAPLUS

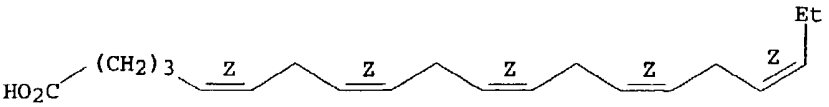
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

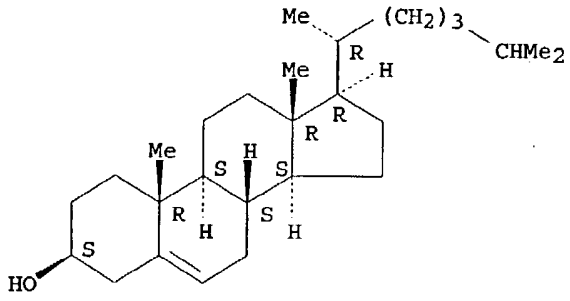
L39 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:695584 HCAPLUS
DOCUMENT NUMBER: 132:207332
TITLE: n-3 Fatty acids do not prevent restenosis after coronary angioplasty: results from the CART study
AUTHOR(S): Johansen, Odd; Brekke, Magne; Seljeflot, Ingebjorg; Abdelnoor, Michael; Arnesen, Harald
CORPORATE SOURCE: Department of Cardiology, Ullevaal University Hospital, Oslo, Norway
SOURCE: Journal of the American College of Cardiology (1999), 33(6), 1619-1626
CODEN: JACCDI; ISSN: 0735-1097
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The n-3 fatty acids (FA) may decrease the occurrence of restenosis after percutaneous transluminal coronary angioplasty. Metaanalyses have shown decreased restenosis after coronary angioplasty upon dietary supplementation with n-3 FA. In a prospective study, 500 patients were treated with n-3 FA (Omacor) at 5.1 g/day or corn oil (placebo) starting at least 2 wk prior to elective coronary angioplasty. The treatment was continued until restenosis evaluation by quant. coronary angiog. after 6 mo. Stenosis was defined as a minimal luminal diam. (MLD) <40% of the ref. diam. Successful coronary angioplasty was defined as .gtoreq.20% acute gain in MLD and a residual stenosis <50%. Restenosis was defined as .gtoreq.20% late loss of diam. and stenosis >50% or an increase in stenosis of .gtoreq.0.7 mm. In 392 patients the criteria for initial stenosis and successful coronary angioplasty were met and, except 4 patients who died, none were lost before the follow-up exam. Restenosis occurred in 108/266 (40.6%) of the treated stenoses in the Omacor group and in 93/263 (35.4%) in the placebo group, giving the odds ratio (OR) of 1.25 and 95% CI 0.87-1.80. In the Omacor group one or more restenoses occurred in 90/196 (45.9%) patients compared with 86/192 (44.8%) in the placebo group (OR 1.05, 95% CI 0.69-1.59). Thus, dietary supplementation with 5.1 g n-3 FA daily for 6 mo initiated at least 2 wk prior to coronary angioplasty did not decrease the incidence of restenosis.

IT **57-88-5**, Cholesterol, biological studies **6217-54-5** **10417-94-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(dietary n-3 fatty acid supplement does not prevent restenosis after coronary angioplasty in humans)

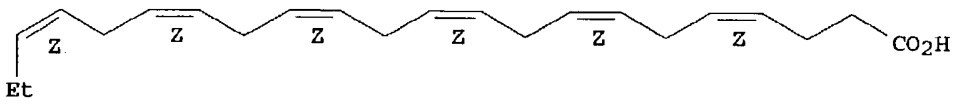
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



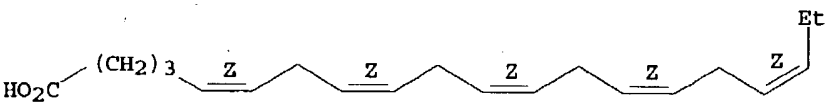
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

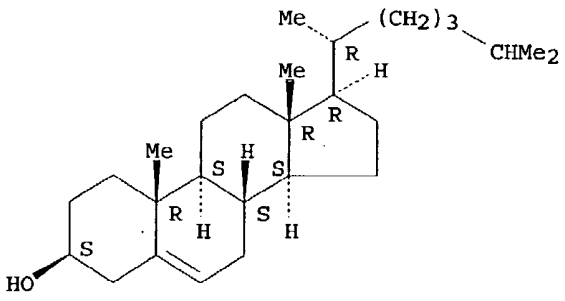
L39 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:795932 HCAPLUS
DOCUMENT NUMBER: 128:127452
TITLE: Comparison of triacylglycerols, esterified and free fatty acids as neutral lipid sources in the diet of the prawn Penaeus monodon
AUTHOR(S): Glencross, Brett D.; Smith, David M.
CORPORATE SOURCE: Department of Zoology, CRC for Aquaculture, The University of Queensland, St. Lucia 4072, QLD, Australia
SOURCE: Aquaculture (1997), 159(1,2), 67-85
CODEN: AQCLAL; ISSN: 0044-8486
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Penaeus monodon were fed purified diets in which the sole neutral lipid

source had a defined fatty acid compn. supplied as triacylglycerols (TAG), free fatty acids (FFA), Et esters (EE), or Me esters (ME). Nutrient intake across treatments was kept const. through sub-satiation feeding. After 50 days, the % wt. gain of prawns fed the TAG diet (94.+-.6) was markedly higher than in prawns fed the FFA diet (84.+-.7), and significantly higher than in prawns fed the ME (73.+-.7) or EE (54.+-.5) diets. Poor growth of prawns fed the EE and ME diets was attributed to the inability of prawns to digest and/or metabolize the Et and Me esters effectively. The apparent digestibility of neutral lipids in the EE diet was lower (90.9.+-.0.9%) than in the other diets (96.5.+-.0.9% for TAG, 98.1.+-.0.6% for FFA, 96.1.+-.0.9% for ME). The digestive gland (DG) of prawns fed the TAG diet had the greatest amt. of total lipids. The DG lipids of prawns fed the TAG and FFA diets contained similar proportions of neutral and polar lipids (55% neutral, 45% polar), whereas with the EE diet the neutral lipids dominated (70%) and with the ME diet the polar lipids dominated (68%). The DG neutral lipids of both the TAG and FFA-fed prawns had high proportions of triacylglycerols and diacylglycerols with small quantities of cholesterol and free fatty acids. Prawns fed the ME and EE diets differed from the TAG-fed prawns in the proportions and total quantities of DG neutral lipids. The DG polar lipids in prawns from the TAG, FFA, and EE treatments had similar proportions of each polar lipid class, in contrast to prawns fed ME where the polar lipids were almost exclusively phosphotidylethanolamines. The fatty acid compn. of the total DG lipid of prawns fed the TAG and FFA diets was similar. There were virtually no polyunsatd. and highly unsatd. fatty acids in the DG lipid of the ME-fed prawns. Thus, when a diet with a particular fatty profile is required, triacylglycerols alone or as a mixt. should be used. If these do not give the required fatty acid profile, free fatty acids may be used to adjust the profile. The use of Me or Et esters as neutral dietary lipid components is not recommended for the study of fatty acid requirements of P. monodon.

IT **57-88-5**, Cholesterol, biological studies **57-88-5D**, Cholesterol, esters **6217-54-5 10417-94-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(triacylglycerols, esterified and free fatty acids as neutral lipid sources in diets of Penaeus monodon prawn)

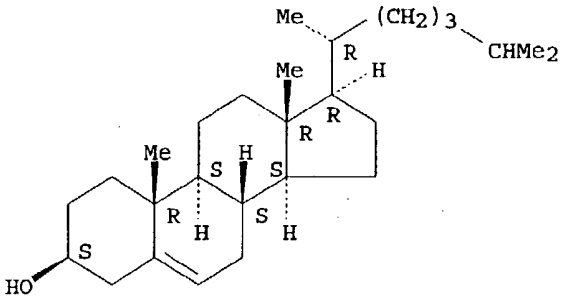
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



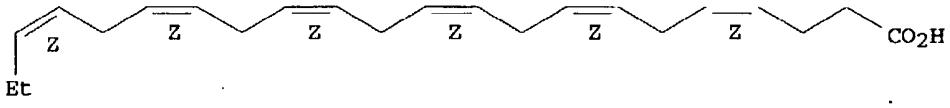
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



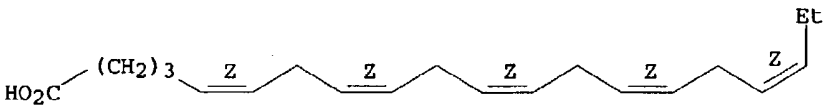
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

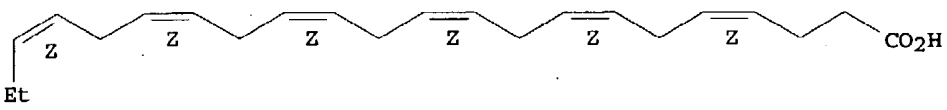
L39 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:714478 HCAPLUS
DOCUMENT NUMBER: 128:22210
TITLE: Kinetics of the incorporation of dietary fatty acids into serum cholesteryl esters, erythrocyte membranes, and adipose tissue: an 18-month controlled study
AUTHOR(S): Katan, Martijn B.; Deslypere, Jean Paul; Van Birgelen, Angelique P. J. M.; Penders, Margriet; Zegwaard, Marianne
CORPORATE SOURCE: Department of Human Nutrition, Wageningen Agricultural University, Wageningen, 6703 HD, Neth.
SOURCE: Journal of Lipid Research (1997), 38(10), 2012-2022
CODEN: JLPRAW; ISSN: 0022-2275
PUBLISHER: Lipid Research, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Tissue levels of n-3 fatty acids reflect dietary intake, but quant. data about rate of incorporation and levels as a function of intake are scarce.

We fed 58 men 0, 3, 6, or 9 g/d of fish oil for 12 mo and monitored fatty acids in serum cholesteryl esters, erythrocytes, and s.c. fat during and after supplementation. Eicosapentaenoic acid (EPA) in cholesteryl esters plateaued after 4-8 wk; the incorporation half-life was 4.8 days. Steady-state levels increased by 3.9 .+-. 0.3 mass % points (.+-. SE) for each extra gram of EPS eaten per day. Incorporation of docosahexaenoic acid (DHA) was erratic; plateau values were 1.1 .+-. 0.1 mass % higher for every g/d ingested. Incorporation of EPA into erythrocyte membranes showed a half-life of 28 days; a steady state was reached after 180 days. Each g/d increased levels by 2.1 .+-. 0.1 mass %. C22:5n-3 levels increased markedly. Changes in DHA were erratic and smaller. EPA levels in adipose tissue rose also; the change after 6 mo was 67% of that after 12 mo in gluteal and 75% in abdominal fat. After 12 mo each gram per day caused an 0.11 .+-. 0.01 mass % rise in gluteal fat for EPA, 0.53 .+-. 0.07 for C22:5n-3, and 0.14 .+-. 0.03 for DHA. Thus, different (n-3) fatty acids were incorporated with different efficiencies, possibly because of interconversions or different affinities of the enzymic pathways involved. EPA levels in cholesteryl esters reflect intake over the past week or two, erythrocytes over the past month or two, and adipose tissue over a period of years. These findings may help in assessing the intake of (n-3) fatty acids in epidemiol. studies.

IT **6217-54-5**, Cervonic acid **10417-94-4**, Timnodonic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(kinetics of the incorporation of dietary fatty acids into serum cholesteryl esters, erythrocyte membranes, and adipose tissue: an 18-mo controlled study)

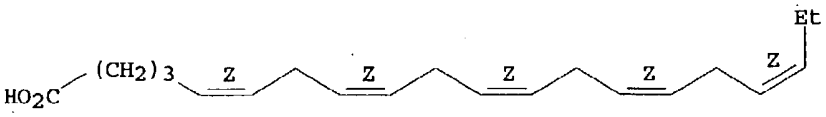
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

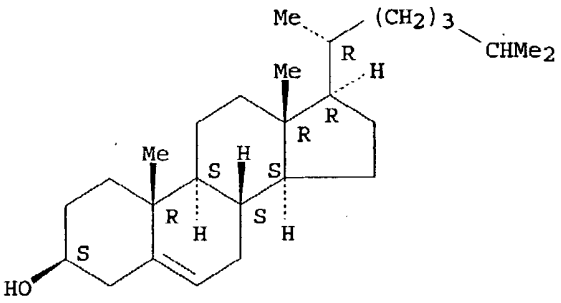
Double bond geometry as shown.



IT **57-88-5D**, Cholesterol, esters
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(kinetics of the incorporation of dietary fatty acids into serum cholesteryl esters, erythrocyte membranes, and adipose tissue: an 18-mo controlled study)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:255669 HCAPLUS
DOCUMENT NUMBER: 126:342871
TITLE: Molecular species of cholesteryl esters formed via plasma lecithin:cholesterol acyltransferase in fish oil supplemented dogs
AUTHOR(S): Bauer, John E.; McAlister, Kristina G.; Rawlings, John M.; Markwell, Peter
CORPORATE SOURCE: Comparative Nutrition Research Laboratory, College of Veterinary Medicine, Texas A and M University, College Station, TX, 77843-4474, USA
SOURCE: Nutrition Research (New York) (1997), 17(5), 861-872
CODEN: NTRSDC; ISSN: 0271-5317
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

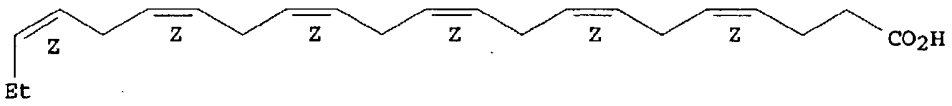
AB Effects of a dietary supplement contg. n-3 polyunsatd. fatty acids, eicosapentaenoic acid (EPA, 20:5n-3) and docosahexaenoic acid (DHA, 22:6n-3), on mol. species of cholesteryl ester (CE) formed via the plasma lecithin:cholesterol acyltransferase (LCAT; EC 2.3.1.43) reaction was studied. A com. available basal diet was initially fed to 18 normal adult dogs for 10 days prior to supplementing the dogs, divided into two groups of nine, using either menhaden fish (MHO) or safflower (SAF) oil capsules for a 22 day period. Fatty acid compns. of plasma phospholipid (PL) and CE were measured at days 0, 10 and 32. Characterization of the plasma LCAT-derived reaction products formed in vitro was performed using a radiolabeled cholesterol substrate and mol. species formed were sepd. by argentation thin-layer chromatog. Significant differences in PL EPA, DHA, and docosapentaenoic acid (DPA) were found in the MHO group. The CE fatty acid distributions revealed a greater than 20-fold elevation in EPA and a nearly 6-fold increase in DHA after MHO supplements. However, DPA was not detected in any CE fatty acid samples suggesting that this fatty acid is not a substrate for cholesterol esterification. The CE mol. species in plasma and those formed via the plasma LCAT reaction in vitro support the possibility that LCAT is responsible, at least in part, for the plasma CE fatty acid distribution. Ratios of selected plasma CE and LCAT derived CE n-6 and n-3 fatty acids using the MHO group data resulted in 3-fold elevations of both DHA/EPA and DHA/AA in the LCAT-derived in vitro CE fraction compared to CE in whole plasma. It is concluded that while both EPA and DHA are suitable substrates for CE formation, relatively lower

amts. of plasma CE-DHA compared to the LCAT derived CE-DHA indicates that this fatty acid may be selectively taken up by the tissues compared to CE-EPA and AA.

IT **6217-54-5 10417-94-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(mol. species of cholesteryl esters formed via plasma lecithin:cholesterol acyltransferase in response to dietary fish oil)

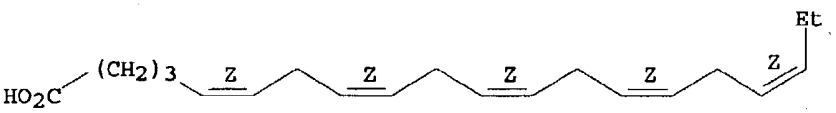
RN 6217-54-5 HCAPLUS
CN 4,7,10,13,16,19-Docosahexaenoic acid, (4Z,7Z,10Z,13Z,16Z,19Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 10417-94-4 HCAPLUS
CN 5,8,11,14,17-Eicosapentaenoic acid, (5Z,8Z,11Z,14Z,17Z)- (9CI) (CA INDEX NAME)

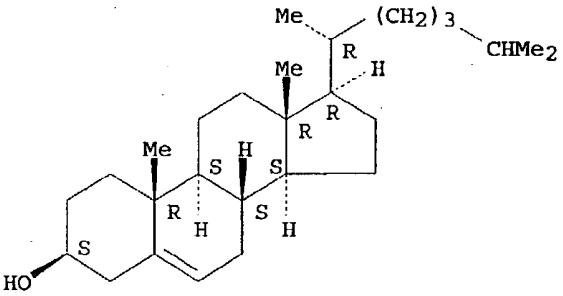
Double bond geometry as shown.



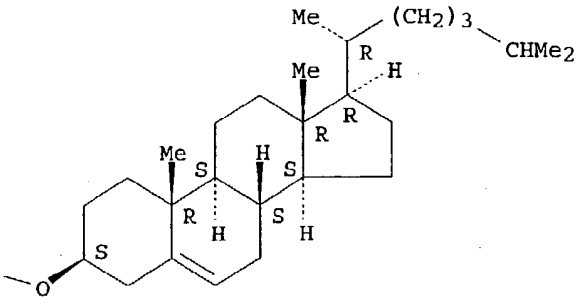
IT **57-88-5D**, Cholesterol, esters
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(mol. species of cholesteryl esters formed via plasma lecithin:cholesterol acyltransferase in response to dietary fish oil)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L39 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:487096 HCAPLUS
DOCUMENT NUMBER: 125:194296



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:367057 HCAPLUS
DOCUMENT NUMBER: 133:17688
TITLE: Preparation of phytosterol and/or phytostanol derivatives for redn. of serum cholesterol and triglycerides
INVENTOR(S): Burdick, David Carl; Moine, Gerard; Raederstorff, Daniel; Weber, Peter
PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1004594	A1	20000531	EP 1999-122978	19991119
EP 1004594	B1	20030806		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
NZ 501169	A	20010525	NZ 1999-501169	19991118
MX 9910678	A	20000930	MX 1999-10678	19991119
AT 246704	E	20030815	AT 1999-122978	19991119
JP 2000159792	A2	20000613	JP 1999-330770	19991122
KR 2000035619	A	20000626	KR 1999-52052	19991123
US 2002160990	A1	20021031	US 1999-448356	19991123
NO 9905784	A	20000529	NO 1999-5784	19991125
AU 9960655	A1	20000601	AU 1999-60655	19991125
AU 762539	B2	20030626		
BR 9905398	A	20000808	BR 1999-5398	19991125
CN 1256277	A	20000614	CN 1999-124382	19991126
CN 1135233	B	20040121		
US 2002055493	A1	20020509	US 2001-989554	20011120

PRIORITY APPLN. INFO.: EP 1998-122412 A 19981126
EP 1999-119337 A 19990929
US 1999-448356 A3 19991123

AB Phytosterol and/or phytostanol esters with polyunsatd. fatty acids having from 18 to 22 carbon atoms and at least three carbon-carbon double bonds are were prepd. as agents effective in reducing both serum cholesterol and

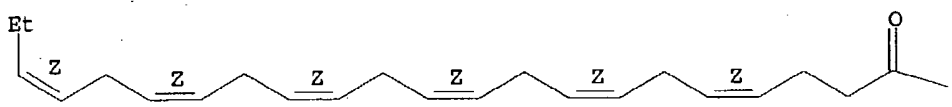
triglycerides. Thus, .91 g docosahexaenoic acid was treated with 1.03 g stigmasterol in presence of dimethylaminopyridine in CH2Cl2 to give 1.0 g stigmasterol docosahexaenoate as an oil.

IT **272107-19-4P 272107-20-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of phytosterol and/or phytostanol derivs. for redn. of serum cholesterol and triglycerides)

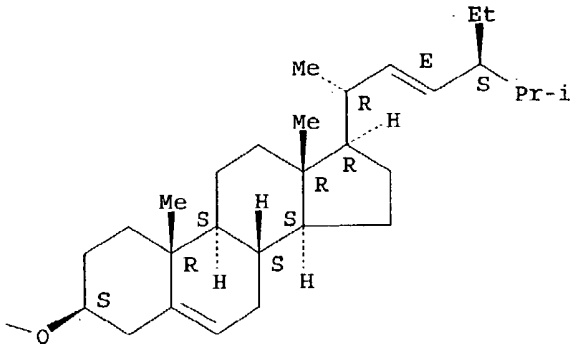
RN 272107-19-4 HCAPLUS
CN Stigmasta-5,22-dien-3-ol, (4Z,7Z,10Z,13Z,16Z,19Z)-4,7,10,13,16,19-docosahexaenoate, (3.beta.,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



RN 272107-20-7 HCAPLUS
CN Stigmasta-5,22-dien-3-ol, (5Z,8Z,11Z,14Z,17Z)-5,8,11,14,17-eicosapentaenoate, (3.beta.,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

US 1030863706P1

Creation date: 10-01-2004
Indexing Officer: KCAPERS - KEENA CAPERS
Team: OIPEScanning
Dossier: 10308637

Legal Date: 10-01-2004

No.	Doccode	Number of pages
1	CTNF	15
2	1449	2
3	892	2
4	NPL	11
5	NPL	7
6	NPL	13
7	NPL	1
8	NPL	17
9	NPL	3
10	BIB	1
11	FWCLM	1
12	SRFW	1

Total number of pages: 74

Remarks:

Order of re-scan issued on .....